

Commerce

SOUTHERN TEXTILE BULLETIN

VOLUME 27

CHARLOTTE, N. C., THURSDAY, FEBRUARY 12, 1925

NUMBER 24

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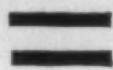
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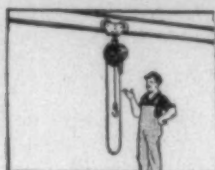
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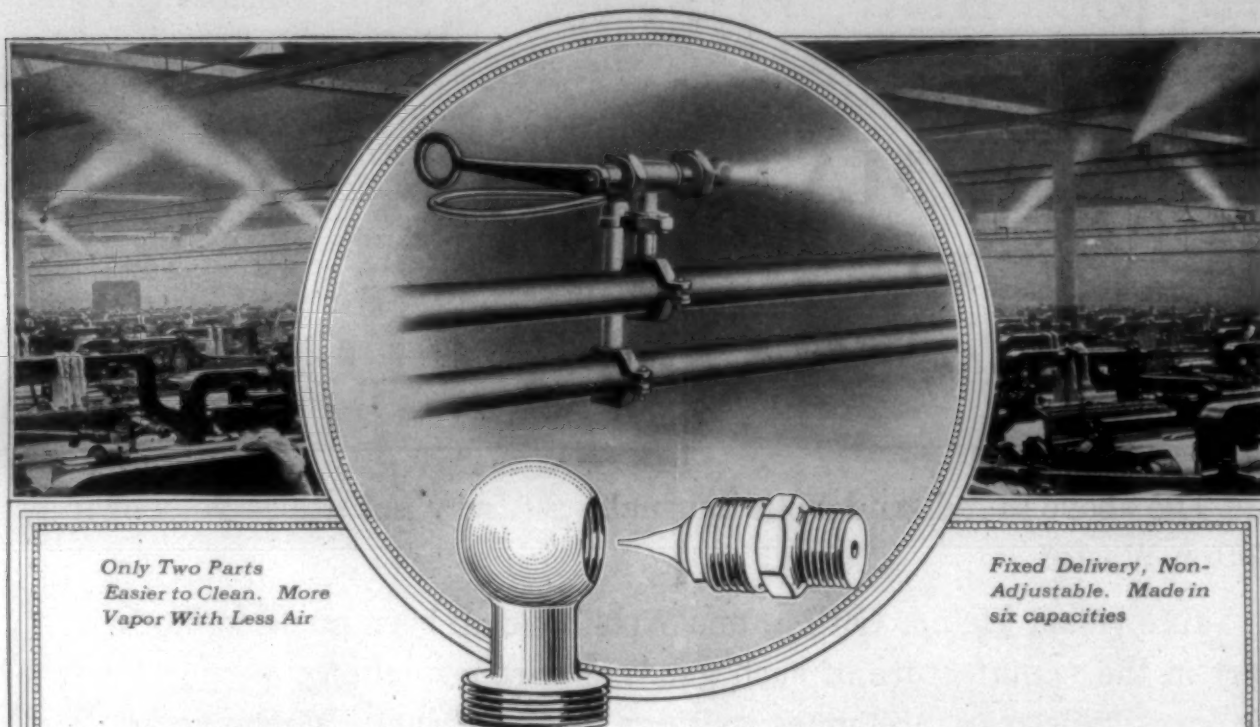
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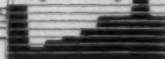
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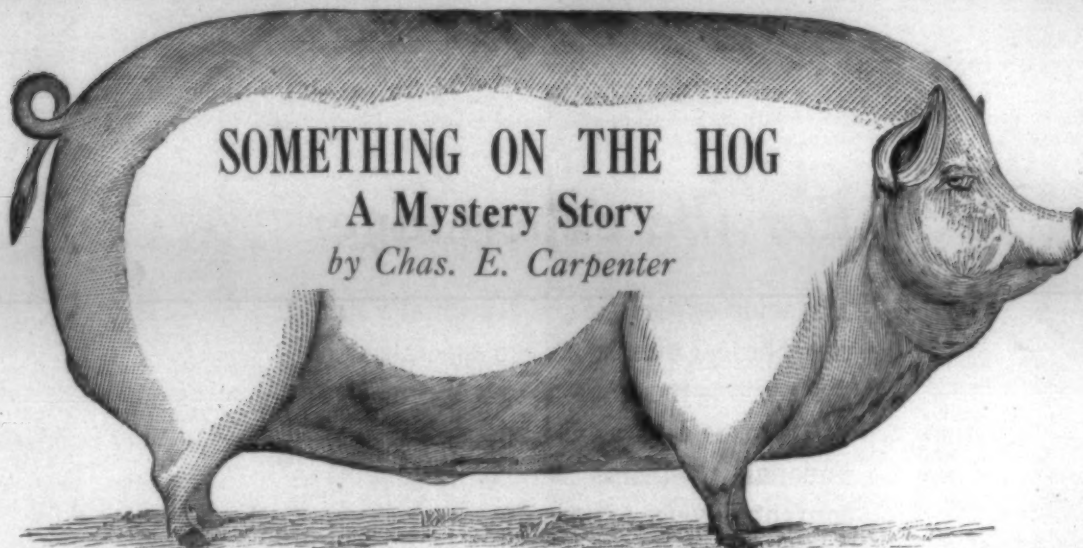


HOUGHTON

SOMETHING ON THE HOG

A Mystery Story

by Chas. E. Carpenter



THERE is a mystery surrounding the hog, which does not apply to any other domestic animal, or fowl. It seems to have always been thus. The ancient Hebrews and Phenicians abhorred swine and the Mosaic law classed them with unclean animals, even though my friends Loeb, Skovinsky, and Leopold have never been known to refuse a ham sandwich when they have been out fishing with me.

The name "Pig" is a mystery, as there is no certainty as to its derivation, which accounts for the fact that they blame it on the Dutch. Sausage is a product from the hog, which is supposed to be a synonym for mystery, while in spite of the great advancements made in the science of chemistry, no scientist has yet made so bold as to declare that he has been able to make a proper quantity and quality analysis of Philadelphia Scrapple. Philadelphia Scrapple, even here in Philadelphia, is like electricity; we use it and know how it acts, but we don't know what it is.

And there is lard oil, a hog product, the greatest mystery of them all. Lots of folks use lard oil in preference to proprietary oils, because, "We know what lard oil is," but it is dollars to the holes in doughnuts that they can't tell you what lard oil is and the chances are about 100 to 1 that they are not getting lard oil when they think they are. There are almost as many kinds of lard oil as there are pickles in Pittsburgh—prime winter strained, prime, off prime, No. 1 and No. 2. But a true lard oil is extracted from the layers of the fat called "leaves," taken from the loins of the hog, placed in cloth bags and pressed, and that is the only kind of lard oil there is, but the average lard oil is obtained by boiling in water, any old sort of a grease or fat obtainable, little care being taken as to whether the fat originated "on the hog," sheep, calf, cow, steer, or horse.

As a matter of fact, when I first entered into the oil business, what are sold today as No. 1 and No. 2 lard oils, were

sold as No. 1 and No. 2 grease oils and were admittedly made of miscellaneous slaughterhouse greases.

Once upon a time, not so many years ago, a Philadelphia woolen mill wrote to a Southern concern, from whom they bought lard oil, the following letter:

"We were induced to buy our lard oil from the South in order to avoid the probability of obtaining oil from hogs fed on distillery slops, but we find our oil so full of gum that we have to clean the cards twice a day."

The Southern oil house explained as follows:

"We regret that at times our lard oil does run gummy, for although our hogs are fed no distillery slops, they do at times eat the resin drawn from the pine trees, which causes excess of gum."

Later on the same mill wrote to an Ohio oil concern, to whom they had changed as a source for lard oil:

"We were induced to buy your lard oil because we felt that there would be no liability of your hogs drinking the resin tapped from pine trees, as seems to be the case in the South. But we now find that your lard oil contains so much petroleum that we are afraid it will explode."

The Ohio concern explained thus:

"Unfortunately our hogs are raised in the Ohio petroleum oil field and at times they will eat oil soaked fodder, which of course is immediately shown in the oil, but we hardly think that it is so bad as to cause an explosion."

The answer to all this is that Nature made lard oil for no particular use, or does man prepare it for any particular use, and like unto every other known animal product, be it meat, fat, bone, or hide, it lacks uniformity and the bulk of those who think they know that they are getting lard oil, have a mystery to solve.

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SOUTHERN TEXTILE BULLETIN

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NUMBER 24

The Science of Dyeing

By Henry F. Herrmann before the American Association of Textile Chemists and Colorists

THE subject of this discussion may be more broadly defined as the systematized study of the acknowledged truths and laws pertaining to the coloring of textile fibers. In the technical history of the world it has been found almost invariably that the art of producing has preceded the science or systematic knowledge of the truths involved in the particular art.

The aboriginal savages hurled rocks in self-defense; later warriors threw spears and shot arrows. In modern times we fire guns. The art dates back to times immemorial, but the science of gunnery and of ballistics is of recent development. This example is cited to bring out the fact that arts originate through man's necessities and develop through his experience and ingenuity.

Science appears later—sometimes by many centuries—to explain and systematize the achievements of the art. Although science has always followed art, it is not just to accord it a secondary place. The most successful craftsmen in any art may be technically unschooled, but they achieve results through intuitive scientific thought.

Whenever science has appeared, the art or craft has advanced with leaps and bounds. Examples to prove this are found on all sides. The navigation by courage, intuition and experience of centuries ago cannot be compared with navigation of today, where the senses of sight and hearing are almost completely subservient to purely mathematical calculation.

It is not yet so with the art of dyeing. Its science is badly belated, and even today it has not yet established itself as completely the master of the craft. There are, however, many and just reasons for this.

The art of dyeing as we know it today is new. It has little in common with the craft of our forefathers, when natural colors and pigments were used. The modern art of dyeing began toward the end of the Nineteenth Century, when aniline dyes first began to be successfully introduced. Furthermore, the science of modern dyeing involves the most intricate phases of physics and chemistry—namely, those applying to the ultra body of the most complex organic substances known, namely—dyes and fibers.

It is therefore necessary to set aside many of the ancient theories

of dyeing and to build our hypothesis on the latest developments of physical and chemical research. It is unfortunate for the science of dyeing that a number of theories must still exist. It proves that the ultimate fact of dyeing has not yet been established, or the most skeptical and conservative experimenter would yield his pet theory in the face of overwhelming evidence in favor of an irrefutable explanation of all the facts pertaining to the art of dyeing.

I will not attempt to enter in detail into the various theories of dyeing which find adherents and active sponsors today. It is necessary, however, that the fundamentals of these theories be thoroughly understood, since I firmly believe that there is truth in all of them and that much that ails the science of dyeing is due to a lack of compromise. Many experimenters theorize on textile fibers as though they were all more or less alike. An experimental result derived from tests on wool is enlarged to apply to silk and cotton. Vice versa, results obtained with a certain dye are magnified to explain the application of all other dyes. This is wrong. The term "dye" is applied to a multitude of complex organic substances representative of most of the known forms of chemical structure. No one would hypothesize on the drug quinine as a result of experiments on starch—merely because they are plant derivatives. Yet we theorize on Alizarine Sapphire because of experiments with Congo Red! Wool, silk, cotton and the many other industrial fibers differ widely in physical and chemical structure, yet many experimenters jump from one to the other as though their inherent differences were of no significance.

The foundations of all science are fact and system. The day is near when some one will reassemble what is now a patch-quilt of disjointed theories, facts and observations, into a tenable, all-inclusive science of dyeing.

The four existing theories of dyeing are: (1) The mechanical or physical theory; (2) the chemical theory; (3) the colloid-diffusion and absorption theory; (4) the electrical theory.

The mechanical and chemical the-

ories have been for decades the center of energetic discussion and controversy. The colloid and electrical theories have been developed in this century. They are scientific attempts to supplement and correlate the older theories in the light of modern, physical-chemical discoveries. Since they are not mutually exclusive as compared with the older theories, they should not be considered parallel to them.

In the mechanical theory an analogy was drawn from the absorption of colors by charcoal. Dyes were considered to be similarly absorbed by fibers and in some instances adsorbed. By adsorption it meant the withdrawal from solution of one solid by another solid. Absorption, on the other hand, considers the purely mechanical soaking up of solvent and solute by a solid and a retention of the solute by evaporation of the solvent.

It is found that purified charcoal loses its property of absorption, which latter action is now attributed to the presence of nitrogenous organic compounds produced by the combustion of protein substances. Since a combination of nitrogenous organic substances with dyes suggests a chemical reaction, the mechanical theorists were forced to look for other proofs.

The dye particles are supposed to wander from solution by endosmosis into the pores of fibres and be there fixed as insoluble lakes with mordants in a hot bath. On cooling, the fiber pores shrink and the dye is tightly held. This may be true where dyes are applied on mordanted fibers, but the theory is untenable in the face of many contrary facts. Assuming that the fiber pores become larger as the dye-bath is heated but that the dye particles become smaller, one would rightly deduce that dyeing would be hampered by heat. Furthermore, the addition of acid or salt to the dye-bath is supposed to enlarge the dye particles but to shrink the fiber pores. Under these circumstances purely mechanical dyeing would be prevented.

Von Georgevics, who is the leader of the mechanical theorists, claims that the dye particles are in a state of adhesion on and in the fiber, and are not in a state of either solution or chemical combination with it.

This adhesion is analogous to capillary attraction—to the adhesion of solute to solvent and to that exerted by glass on a liquid which wets it.

Von Georgevics admits the dissociation of basic dyes dissolved in water—admits that if the base is attracted to a substance in contact with it a colored body results. This feature of attraction, also named affinity, again weakens the mechanical theory, since affinity between substances can be explained only by chemical or electrical hypotheses. When bodies which are attracted to one another and combine lose their identity, a chemical combination is understood to have taken place. If they are not changed an electrical union, due to opposite electrical charges, must have taken place.

In some instances dyeing may be assumed to be purely mechanical where the dye in the form of "coarse gel" is pasted on the fiber and is forced to adhere either by a removal of the solvent or by the addition of a coagulant or simple adhesive. Certain forms of padding and the elementary phases of printing are thus explained.

The Chemical Theory.

The chemical theory, on the other hand, assumes a chemical combination between fiber and dye—in short, a salt formation. Fibers, such as wool and silk, which by hydrolysis give amino acids contain salt-forming groups and produce actual salts with dyestuffs containing acid and basic groups. This salt formation is analogous to the salts resulting when simple acids and bases (alkalies) are combined.

Since the formation of a salt results in a chemical change of the two components entering into the reaction, there is much doubt attached to this theory. Wool dyed with an acid red must then be considered as a new substance; namely, a wool-dye-salt. This is not true, since the dye can be removed and its identity, so far as we know, remains unchanged. The wool can be stripped of its dye and to all appearances and in its chemical behavior is the same as virgin wool. There are many reversible reactions in the chemical realm, but the wool-salt reaction does not parallel them sufficiently to serve as a comprehensive explanation of dyeing in general.

When chemicals combine they
(Continued on Page 35)

Cotton Piece Goods Dyeing

THE dyeing of cotton cloth "in the piece," or, in other words, after the fibre has been spun in yarn and then woven into cloth, promises to become an increasingly important branch of the textile industry.

It is the purpose of this article, explains a contributor to the American Dyestuff Reporter, to describe some of the methods in use in the modern piece goods dyehouse. These represent in most cases a combination of old-time practices with the continuous process methods developed as a result of war-time activities.

The bulk of all cotton piece goods is dyed on but two types of machine—the padder and the jig. With the exception of a few minor changes in design these machines have not been improved in many years. This is due to the fact that they are extremely simple and at the same time very efficient. In this paper some of the more important details for the dyer to bear in mind when running pads and jigs will be reviewed. It has been aptly said that the difference between a real good dyer and one of mediocre ability is the difference between the man who is ever watchful of the smallest details of his work and the man who is too busy to give attention to them.

Padder Dyeing—Preparation of Cloth.

There is a certain amount of padder work which is not bleached. A large quantity of coarse yarn sheetings has been dyed in this way within the past few years, and while such goods very often show stains, they are seldom, if ever, due to the dyehouse. These goods are dyed and finished to imitate woven fabrics, and have been largely used for shirtings, aprons and children's clothing. The desired results are obtained by padding the unbleached cloth through a cold solution of dyestuff. In this way the color goes on the cloth more or less unevenly, and without thoroughly penetrating into the fibre.

Most cotton cloth, however, for padder dyeing in light shades should be bleached to a good white, care being taken that a good "bottom" for the cloth has been obtained, in order to prevent streaks and stains in the cloth. Such stains, or "resists," may often be caused by imperfect kier boiling, which does not remove all of the original waxes and sizes. Stains of this sort are very difficult to remove and, in fact, often render the cloth unmerchantable. In some cases several passages through a weak solution of hydrochloric acid will clear the fabric, or in severe cases a further boil with caustic soda or soap may help. Resist stains on fine mercerized cloth for dyeing may sometimes be traced to insufficient souring while in bleach, although it is the writer's opinion that the most important phase of bleaching for the dyer to study is the kier-boiling or "bottoming." If the cloth is thoroughly boiled so as to obtain a uni-

form removal of the natural impurities in the cotton it is quite possible to dispense with the last souring when in bleach.

Another source of trouble from streaks and stains may be traced to the use of too strong a solution of bleaching powder, resulting in the formation of oxycellulose. Fortunately, through improved methods of bleach liquor control now practiced in the modern dyeworks this defect is rapidly becoming a rare one.

When the stains are due to oxycellulose in the cloth, it will be found that basic colors, such as methylene blue, have a strong attraction for the oxycellulose, while direct dyeing cotton colors, such as benzo-purpurin, have an equally strong repellent action. The intentional production of oxycellulose by a strong solution of bleaching powder has no technical value as an aid to dyeing, however, because the strength of the fibre is considerably diminished in its formation.

Construction of Padders.

Padders are of various styles, depending on the class of work handled, but usually consist of two or three rubber or brass bowls, placed one on top of the other, with the bottom one revolving in a trough containing the dye solution. The bowls may be from 8 in. to 20 in. or more in diameter and the speed of the machine from 40 yds. to 60 yds. per minute. The dyebox may contain from 12 gals. to 40 gals. of liquor, and is fed from one or more storage tanks placed near by. A closed steam coil should be arranged for in both dyebox and storage tanks, to keep the color solution at an even temperature. Trouble experienced with heavy shades running off the correct cast may often be traced to a cooling of the dye liquor, and this may be largely overcome by the use of closed coils.

With bowls of 18 in. or larger, a speed of 120 yds. to 160 yds. is not uncommon, the cloth being run from rolls directly into the dyebox or from a truck placed far enough from the machine that the cloth may be loosely threaded up before entering the nip. At a high rate of speed the truck must be placed a sufficient distance away to give the operator opportunity to remove any creases which may have been dried in. In batching up after dyeing it is often convenient to make rolls of 1,500 yds. to 3,000 yds., which are taken on a small truck to the drying cans. Here a small block and fall will be found useful to lift the rolls on the stands in front of the dryer.

Dyeing in the padder is accomplished by passing the cloth under one or more rollers in the dyebox, and then through the nip.

The object in this case is to pass the cloth under a roller placed about 2 in. above the surface of the dye liquor, in such a way that the cloth will follow the surface of the bottom bowl for about one-fifth of its diameter. With this dyebox there should be no trouble from dirt or

dye specks being drawn on to the cloth, such as is often the case where the cloth passes under a roller in the dye. Heavy twills, drills, sateens, etc., which are not easily penetrated on the ordinary sloop padder when run straight through the nip, dye very well in such a box.

A three-bowl padder, consisting of top and bottom bowls of rubber and a centre one of brass and running from 40 yds. to 80 yds. per minute, will be found useful for dyeing cloth which might show stains or streakiness if dyed on a faster padder.

Within the past few years it has become the practice to attach drying cylinders to the padders wherever space permitted, and this phase of piece goods dyeing has many points in its favor. In addition to the time and labor saved in the dyehouse in transporting cloth to and from the drying machinery, the saving in cloth is considerable. It is not unusual to see a waste of 2 yds. to 6 yds. on the end of each roll of cloth dyed on a padder, due to stopping the machine when changing and taking off the rolls. When dyed and dried in one operation, the cloth may be delivered in trucks holding several thousand yards each, thus eliminating all wastage due to bad ends and stops. With competition becoming constantly keener, few mill executives will not bear witness to the fact that their customers are asking for greater returned yardage, and a padder with drying cylinders attached is a means to that end.

Care must be exercised in such an arrangement to see that the first few cans the cloth passes over are not too hot, or a mottled and "blistered" dyeing may result. If possible, the first few cylinders should have a separate steam connection, which will allow the operator to regulate the heat to best advantage. Such machines are best driven by direct current motors, where a range of motor speed from 10 to 1 is possible. A shunt field rheostat with a large number of running points will permit ease of adjustment over the normal operating speeds, and shunted armature control will account for the slower "jogging" and "threading" speeds.

A padder with such a motor drive also very often proves useful to the dyer in obtaining the desired depth of shade, since he may speed up if the trial "swatch" is a little too heavy in shade, or slow down slightly if too light, thus giving the cloth a longer or shorter time in the dye solution, as may be required.

Pad Dyeing and Starching.

Dyeing and starching in one operation may be successfully accomplished with many grades of cloth on a padder with two or three bowls if carefully supervised, and will effect a great saving in time and labor on any cloth so handled. In this case the dyestuff, previously dissolved in a suitable pail or vat,

is added to the starch mix when boiling up same. The amount of starch per gallon should not exceed more than 1½ lb., as clothing requiring more sizing than this is very apt to appear streaky. The dyebox on the padder used for this purpose has a valve on its bottom. Then, if by trial is not the correct shade, the thickened dye liquor may be drawn off and returned to the mixing tube. By this means a second tub of starch will contain the same amount of color as added to the previous one, and an even run is assured. Best results when dyeing and starching in one operation are obtained by running the cloth under a rover in the dyebox, as in this way the cloth is given a uniform wetting. One of the principle requirements of such a machine is that it be so constructed as to be easily cleaned. The pipe feeding the thickened dye solution must be as short as possible, and preferably without sharp bends. The colored starch should be run in at the back of the dyebox, so as to be carried around by the bottom bowl, and in this way evenly distributed. A spray pipe is impractical except with very light starch mixes, since the starch will soon clog it. If it becomes necessary to stop the machine for any length of time in the course of a run it is best to wash out the pipes and box before starting up, to avoid spots from the caked starch which, due to cooling, collects immediately.

Suitable Dyestuffs Available.

With the large assortment of easily soluble dyestuffs now offered by the American manufacturers, few precautions regarding the dye solution are necessary. The so-called "direct" or "substantive" colors used for practically all padder dyeing are so soluble in water and exhaust so slowly that uneven dyeings seldom occur. Best results with the substantive dyestuffs are obtained when dyeing at a temperature somewhat under the boil. For full shades a temperature of about 160 degrees F. will be found best for general work. Many of the substantive dyes appear to give better results in an alkaline solution, soda ash being the agent usually employed for such a purpose.

Sodium phosphate, a milder alkali, also finds extensive use in padder dyeing, principally for light shades. The chemical action of the alkali in such cases is rather uncertain, but it probably assists in penetration of the cotton fibre by the dyestuff. The addition of common salt or Glauber salt will decrease the solubility of the dyestuff in water and consequently give heavier dyeings. Care must be exercised in the use of salt to keep from precipitating the dyestuff, which occurs when too large an amount is used. Such precipitation, or "salting-out," will cause dye specks and uneven runs of shade. Turkey red oil and soap are often used, particularly when dyeing light shades on fine mercerized cotton

(Continued on Page 10)

How Have Your New Looms Started Up?

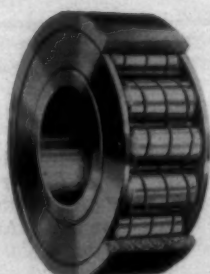
"OUR new Hyatt roller bearing looms started up as easily and smoothly as though they had been 'run in' for several months. They started up better than any looms I have ever operated".

This is the recent statement of a weave room overseer of a prominent cotton mill where a large number of Hyatt equipped looms have been installed.

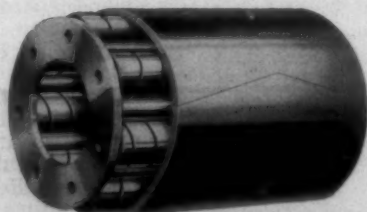
Could you say that of ordinary looms equipped with plain bearings? They are necessarily stiff, require much 'running in', wear unevenly and each loom assumes a condition individual to itself.

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Type of bearing used
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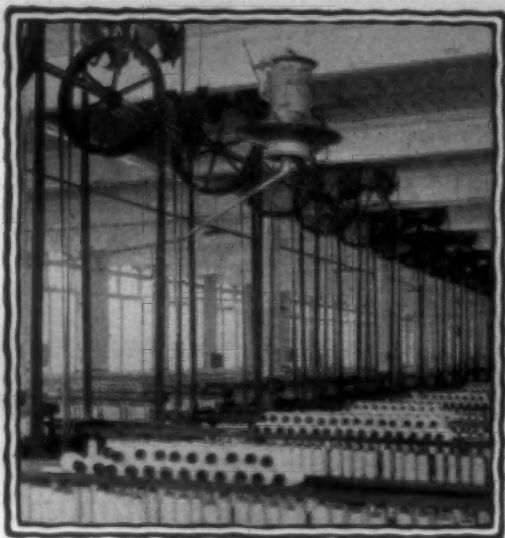


Type of bearing used
on loom cam shafts and
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Nothing takes the place of Leather



Cotton Piece Goods Dyeing

(Continued from Page 8)

cloth and when dyeing at moderate temperatures. The action of the soap or oil is to aid penetration, and in the case of organdies, voile, etc., for dress goods finishes, it is possible the fastness of the material to wash washing is slightly increased. Few colors besides the "direct" dyes are successfully applied on the padder in the production of mode shades. Basic dyes may be successfully used in very small quantities in combination with the direct dyes or in a separate solution for "topping" the direct dyes to obtain very bright light shades. When used, the basic dyestuff should be dissolved with the aid of acetic or formic acid and the dyeing conducted at a moderate or even cold temperature. Great care must be taken so as to ensure perfect solution of the basic dyestuff at all times. In dissolving the basic dyes, cold water should first be added to the dye and the mixture worked up to a thin, smooth paste. Afterwards, a large amount of boiling water and 1 or 2 per cent of acetic acid will usually bring the color to an easy solution. If boiling water be added to the dry basic dyestuffs many of them form sticky tar-like lumps which are extremely difficult to dissolve.

Without doubt one of the most common faults, if not the most common, found in goods dyed with basic colors is "speckiness," due to minute fragments of undissolved dyestuff. It is usually impossible to remove the dye specks without entirely discharging the color, and such a treatment, which is of necessity a severe one, is liable to weaken the cloth.

With the large range of direct dyeing cotton colors now available, however, the question of suitable dyestuffs and assistants for the dyer of padder shades is not a vexing one. The best results in shade and production are obtained rather from the machines which are best adapted mechanically to the work required of them.

Jig Dyeing.

The present-day dyer finds himself still obliged to turn his "jigs" for the dyeing of many shades which even the finest padders cannot do successfully. This work includes the dyeing of heavy fabrics, such as corduroys, cotton drills and twills, serges and the like, as well as lighter weight cloths to be dyed heavy shades of brown, navy, etc.; also many shades which require after-treatment with metallic salts and various other fixing agents to insure good fastness. Among the latter shades of dyed cotton fabrics may be included drapery fabrics fast to sunlight and washing, washable dress goods cloths to be rubberized, many fabrics which are to be subjected to the action of weather, such as umbrella cloth, awning duck, etc.

The ordinary jig, or, as sometimes called, jigger, consists of a dye vat larger at the top than at the bottom, which contains several guide rollers. The size of the dye vat depends on the kind of cloth to be run, the width running up to 90 in. or more and the depth being about 30 in.

Cold water and steam connections are placed within convenient reach of the operator, and in large dye-houses hot water fed from a central tank will save much time otherwise consumed in boiling up the dye liquor between passages of the cloth. Whenever convenient, it is likewise advisable to equip the dye vat with a closed steam coil, which will prevent excessive dilution of the dye liquor with condensed water from the open steam tap. When several additions of dye liquor are made during the passage of the cloth and a large number of passages or "ends" through the dye liquor are required, the volume of water often becomes so great when there is no closed coil as to cause a serious dilution and hamper the dyer in obtaining the correct shade. The cloth is brought to the jig wound on rolls containing the proper number of yards and is passed over the guide rollers on to a roller placed above the surface of the dye liquor. When the jig is started, the cloth is wound back through the liquor, and this operation of passing the cloth back and forth through the dye liquor is repeated until the proper shade is obtained. As soon as the dyeing is finished the roll of cloth is taken from the jig and water-mangled to squeeze out the excess colour, and is then ready for oxidation, ageing or drying, as the case may be. This type of machinery is used for the general run of shades dyed with direct, basic, vat or mordant dyestuffs.

For the dyeing of some classes of colours the ordinary jig is best equipped with a squeeze roller. The squeezing arrangement consists of a rubber-coated roller operated with screw and lever pressure and placed on top of one of the drawing rollers. This arrangement allows the cloth to be wound on the bottom iron roller while the rubber-coated squeezing roller is pressed upon it. Another somewhat similar type of jig has both drawing rollers arranged with rubber squeezing rollers, thus allowing the cloth to be well squeezed after each passage through the colour solution. These machines are used principally for dyeing goods with the sulphide or so-called "sulphur" dyestuffs.

Considerable trouble has always been experienced with many types of sulphur dye-stuffs due to their rapid oxidation on exposure to air during dyeing. This oxidation in goods dyed on the jigged is most pronounced at the selvage of the cloth; and inasmuch as a large percentage of all sulphur-dyed fabrics are narrow twills and drills used in the manufacture of work clothing, these discoloured and shaded selvages mean "dye seconds," which can only be used by the clothing manufacturer at a considerable loss. This is because such fabrics are usually made up by the manufacturer in a manner which utilises practically the entire width of the cloth. For this reason, as well as because the finished garment is for outside wear, dye seconds are particularly objectionable, and can be disposed of at only a price far below that of first-quality goods.

(Continued on Page 42)



What does "Engineer" mean?

NO word is used more loosely or more inaccurately than the word "Engineer," with the result that there is a great deal of confusion in the public mind about the man who has the right to this title and about his work.

The first thing to remember about him is that the Engineer is a professional man, like a physician, a lawyer, or an architect, and that he works *for* and *with* his client.

In this respect he differs from the contractor or builder, whose work is, in reality, a form of manufacturing. The contractor buys raw materials in the form of bricks, mortar, cement, structural steel, lumber and other elements of construction. These, with the aid of his labor and machinery of erection, he manufactures into the finished factory, office building, dwelling, bridge or other structure.

As with every business executive, a part of the builder's or contractor's profit comes out of his shrewdness as a buyer.

The engineer does not buy to resell, nor does he "manufacture" a structure. He becomes a part of the organization of his client.

What his client needs in the field covered by his profession, the Engineer supplies. He counsels for or against a location, a type of structure, materials, methods, designs, or even the investment itself; he plans and designs for fundamental requirements such as safety, economical operation, endurance and for the countless other essential factors that will safeguard his client's investment. He supervises construction, he acts as purchasing agent for special equipment or materials if necessary, he appraises values, and he performs a host of technical tasks, but every step is weighed against the investment return to the client.

Two books to write for:—

"Picks to the Minute," on the textile industry.

"Factories for the Future."

J. E. SIRRINE & COMPANY

Engineers

Greenville
South Carolina



627 Tenn. Elec. Power Bldg.,
Chattanooga, Tenn.

South's Newest Fibresilk Plant

The South's newest fibresilk plant, recently completed at Old Hickory, near Nashville, Tenn., by Dupont interests, has been placed in operation.

The plant just completed by the Buffalo Fibresilk Company, a subsidiary of the DuPont company, is known as No. 1. It is composed of Unit A and Unit B. The former has just been placed into operation and work has been started upon the latter.

The number of operatives will be increased as the operations are expanded, and will reach 1,000 in unit A by June. An equal number will be in unit B so that by this summer there will be 2,000 men and women under employment.

The output will be 500,000 pounds of fiber, or rayon as it will be known to commerce, per month. The 150-denier thread size is quoted at \$2 per pound.

An interesting feature connected with the opening is that all of the women employes in the inspecting department except the heads, will be young graduates of high schools in Middle Tennessee. Forty-two of these have made application as the result announcement made through the Banner last Sunday by the DuPont management that the first fifty places among women would be given to female graduates from the public

school system, who, however, were required to present credentials of approval former principals. Ten of these graduates from Goodlettsville, Gallatin, Springfield, Portland and Lebanon will be at work Monday.

\$15,000,000 Project.

The initial investment is in the neighborhood of \$4,000,000, according to statements made when the company began work. There is every indication that, if the first plant proves a success, of which no doubt is entertained, the company will add three others, in the space of a few years, the ultimate investment going to the \$15,000,000 mark and number of employes around 8,000.

This initial plant in itself is immense. Twelve hundred men have been employed on construction, with day and night shifts. This plant consists of main factory, chemical building, power house, water filtration plant, salvage stores, miscellaneous shops and stores, paints and oils. The chemical building is five-stories and of concrete, the others of brick and one story. The power house has 2,500 horsepower, for both units.

The main factory faces on the boulevard 242 feet and has a depth of 690 feet, thus having almost four square acres of floor space. The main factory of Unit B will be

alongside A and be 240 feet wide by 26 feet deep. The floor space of the whole plant will be 270,000 square feet.

The Buffalo Fibresilk Company, which bought 527 acres from the Nashville Industrial Corporation and 594 residents of all descriptions, composing the villages of powder plant days, for \$625,000, has already 425 white family tenants in its houses and 120 negro family tenants. The heads of all these are employed by the company. There are sixty apartment houses, with room in each for six families, white; and nineteen apartments with homes in each for six negro families. The company has accommodations at its disposal now for between 850 and 900 white families, about half of which are in use.

The plant represents the last word in scientific advance in the industry, and is one of four large ones in the United States. The others are those of the DuPont Fibresilk Company at Buffalo, N. Y., American Viscose Company of Marcus Hook, Pa., with a branch at Roanoke, Va.; the Tubize Company, Hopewell, Va. There are several small factories scattered over the country.

The rapidity of the growth of the industry in the United States since its introduction here in 1910 is

shown in the fact that in that year the output was about 1,000,000 pounds, and in 1924 was 40,000,000.

Only Southern Labor.

Only Southern labor will be employed, and it will be in the percentage of fifty-four male to forty-six female. That it will be Southern to the core is the settled policy of the company, as officially announced, and as shown in all the arrangements for opening the plant. Not a foreman or sub-foreman has been brought here from the parent factory, which, by the way, the Old Hickory plant equals in size. Only the nine department heads are from Buffalo, and these are necessary for purposes of instruction. Southern men and women will be taken on and trained as rapidly as possible; and Southern "atmosphere," it is planned, will characterize the environment and home life.

The welfare department which the du Ponts have organized represents the most advanced provisions known to the industrial world today. It extends from the home life to the daily work in the factory.

Every man or woman who applies for employment must supply three or four references, and the company invariably follows these up. Physi-

(Continued on Page 40)

H. & B. AMERICAN MACHINE CO.

Pawtucket, R. I.

Builders of Complete Equipments of

Cotton Opening and Spinning Machinery

Consisting of

HOPPER BALE OPENERS — CRIGHTON OPENERS — EXHAUST OPENERS
BUCKLEY OPENERS — ROVING WASTE OPENERS

SELF FEEDING OPENERS — FEEDERS — COTTON CONVEYING SYSTEMS
INTERMEDIATE and FINISHER LAPPERS

REVOLVING FLAT CARDS — DRAWING FRAMES (With Mechanical or Electric Stop Motion)

SLUBBING — INTERMEDIATE and ROVING FRAMES
SPINNING FRAMES and TWISTERS (Band or Tape Driven)

SPINDLES — FLYERS — RINGS — FLUTED ROLLS

Southern Office

814-816 ATLANTA TRUST CO. BLDG.

Atlanta, Georgia

DU PONT
DYESTUFFS

PONSOL BRILLIANT BLUE R PASTE

*A bright reddish,
vat blue*

This latest addition to the Ponsol series is somewhat redder and brighter than Ponsol Blue RS Paste which heretofore has been our reddest vat blue.

Besides shade and brightness, Ponsol Brilliant Blue R Paste possesses a degree of resistance to chlorine which permits its use in the dyeing of all types of fabrics where fastness to severe laundering is essential.

E. I. DU PONT DE NEMOURS & CO., Inc.

Dyestuffs Department

WILMINGTON

DELAWARE

Tentative Army Specifications on Blue Denim

Philadelphia, Pa.—New "tentative" specifications dated January 22, 1925, have been prepared by the army quartermaster for the manufacture of blue denim. These specifications cover the character of raw materials to be used, weave, finish, texture, width, breaking strength, methods of testing, marking, packing and the like. These specifications in detail are:

General: This specification describes the approved sealed standard sample of blue denim. The details given herein are sufficient for the purpose of bidding, and together with the sealed standard sample, are sufficient for manufacturing purposes. In case of a disagreement between contractor and contracting officer regarding points which may not be fully covered by this specification, the sealed standard sample will govern. Sealed standard samples may be inspected at the office of the quartermaster general, and at the general supply depots of the army.

Materials: Cotton, raw and dye, indigo.

Manufacture: Yarns to be well carded and evenly spun.

Color—Warp yarn to be dyed a fast indigo blue. **Filling** yarns to be white. Color to be a close match to the sealed standard sample.

Weave—Three-leaf twill, two up and one down.

Finish—The cloth shall contain no

sizing or other weighting material; it must be soft, pliable, smooth, free from streaks and other imperfections due to dye, weave or finish. When rubbed with a piece of white cloth, to show no more crocking than that of the sealed standard sample.

Physical properties—The texture, weights, widths and tensile strength are to be in accordance with the following table:

Construction Table for Blue Denims.

Weight in Ounces per Sq. Yd.	Threads per inch—Warp.	Threads per inch—Filling.	Tensile Strength in Pounds—Warp.	Tensile Strength in Pounds—Filling.	Comm. Width—(In.)	Designation Yds. per Pound.
8.5	60	40	130	55	28	2.40
9.4	66	44	140	60	28	2.20
10.3	66	44	150	65	28	2.00

Note: A tolerance of 1½ per cent above and below the standard weight may be permitted.

Tests: Strength—The grab method shall be used. The tensile strength will be determined by placing specimen between the jaws of a testing machine three inches apart at the start. Front jaws shall be one inch square and the pulling jaw shall travel at a uniform rate of 12 inches per minute. The average results of tests shall be recorded separately and must not fall below figures given in construction table.

Color: The following tests will be applied:

A. Boiling 10 minutes in a solution of soda (10 grains of dry sodium carbonate to one pint of water).

B. Boiling for 10 minutes in a solution of 80 grains of soap (army issue), to one pint of water.

C. Light — The fastness-to-light tests will be applied in accordance with the best known procedure.

In any tests made, no greater change must take place than would be shown under similar test made at the same time on the sealed standard sample.

Tests of weight and strength shall be made under prevailing atmospheric conditions, except in the settlement of disputes, when they shall be made upon material having normal moisture content, obtained by exposure for at least four (4) hours to an atmosphere of 65 per cent relative humidity at 70 degrees F.

Inspection: Raw materials—materials in process and finished denim may be subject to preliminary in-

spection at point of production and final and careful inspection will be made at depot having jurisdiction over contract.

Marking: Each bolt shall have a ticket attached to selvedge at one end, bearing the name of the contractor, date and number of contract, depot of delivery, number of yards, total and net, leaving a blank space at bottom for the name of the inspection.

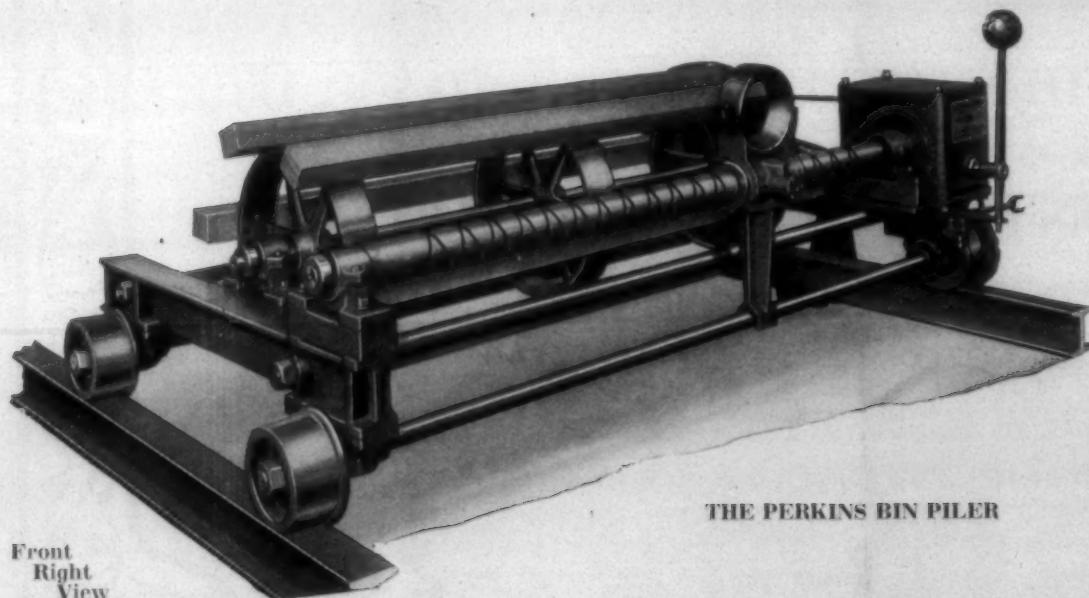
Packing: For domestic shipment, commercial packing that will insure delivery in good order at destination will be required. For export, War Department specifications for export packing, current on the date of circular proposal will govern.

Chipping containers shall be marked as directed by the purchasing and contracting officer.

Consolidation of Cotton Mills in Cartagena.

A consolidation of the two cotton mills in Cartagena has been effected. It is understood that one of the mills will now be used solely for weaving, while the other will be operated for ginning, carding and spinning, according to report of the Department of Commerce by Consul Schnare, Cartagena. The combined production of the two plants should be in the neighborhood of 30,000 yards of cloth per week, in addition to about 500 dozen men's undershirts.

Bleacheries and Dyehouses Appreciate the Efficiency of the PERKINS BIN PILER



Front
Right
View

THE PERKINS BIN PILER

To distinguish the machine so favorably known as THE PERKINS CLOTH PILER from the Perkins Kier Piler, which is also a machine for piling cloth, the name of the former machine has been changed to THE PERKINS BIN PILER.

for systematically piling or plaiting cloth or yarn into bins, tanks or vats.

THE PERKINS BIN PILER

eliminates all hand labor in doing this work. More uniform processing of goods is assured. And there's absolutely no hazard of snarling or knotting.

For full particulars and Bulletin, Write Dept. S 2,

B. F. Perkins & Son, Inc., Holyoke, Mass.





For Two and Four-Frame Drive

THE first installations of two and four-frame electric driving equipment, for double extended shaft and universal types of apparatus, were made by Westinghouse. They are still giving successful service.

To meet the severe operating conditions of today, minor changes only have been necessary in the original equipment.

Westinghouse two and four-frame driving apparatus answer every requirement of the textile mill when changing from mechanical to electric drive.

Some of the reasons why Westinghouse two and four-frame drive motors are giving such excellent service.

Stator—Steel construction gives maximum strength with light weight
Special insulated and moisture resisting winding.

Rotor—Brazen rotor which is indestructible.

Shaft—Large shaft of axle steel.

Bearings and Brackets—Dust proof.

Westinghouse Electric & Manufacturing Company
East Pittsburgh, Pennsylvania
Sales Offices in All Principal Cities of
the United States and Foreign Countries



Westinghouse

X78408

Lola Mill To Build Dye Plant

Stanley, N. C.—The Lola Manufacturing Company started Monday the erection of a dye plant to be equipped with modern beam dyeing machinery. The building will be located on a site near just back of the No. 1 mill. This will put the mill in position to take yarn from warps, section beams and ball warps and dye them.

This system has been worked out by R. F. Craig and W. P. Hornbuckle. Two years ago, when the Lola Gingham Mills of this place was put in operation, it was noticeable by the inventors of the new system of dyeing that there was too many seconds being made from bad colors, or colors that were not uniform. So they began to work together to overcome this which they have done.

About a year ago, the Lola Gingham Mills was weaving 50s single yarn and at that time had to size this yarn just as it came from the beam dyeing machine which was an impossibility as the yarn was wet and contained more than a pound of water to the pound of yarn. It has been decided to work out a system for drying yarn on beams. This has been accomplished and the Lola Gingham Mills have in use today the only beam drying machine that has ever been built so far as they know or have been able to find out.

The inventors of the above machine have also invented a beam

for dyeing or bleaching yarn. This beam is non-collapsible and should any piece be broken or damaged from any other machine. It is so constructed that by loosening four bolts, or nuts, it will readily come to pieces so that the defective piece can be taken out and repaired or replaced. The barrel of the beam is so constructed that the dye can circulate in one part of the yarn as easy as another thereby eliminating any cause for streaks in the yarn.

Huge Warp Dyeing Machine

The Cocker Machine & Foundry Co., Gastonia, N. C., is shipping two large indigo warp dyeing equipments which they have built for the Erwin Cotton Mills Company of Duke and Durham.

When assembled and ready for operation in the Erwin Mills, these two machines will be the largest individual pieces of textile machinery operating in any textile plant in the world, it is said, and are to be used in the dyeing of cotton warp yarns for manufacturing indigo denims for overall fabrics.

Each equipment will require from seven to ten freight cars, as they weigh about two hundred tons each, and when installed for operation, will occupy a floor space approximately 200 feet in length by 24 feet in width.

The two machines will dye 100 warps per day, each of these warps having approximately 420 ends each, 6,000 yards long, and figured as one thread would encircle the globe five and one-half times.

The Cocker Company is a Gaston county concern. George B. Cocker is general manager and designer; Thos. L. Craig is president; D. J. Craig, of Statesville, vice-president, and J. Robert Craig, secretary and treasurer. Messrs. J. R. Craig and George B. Cocker are the two men in active charge of the foundry.

Textile Research At State College

Raleigh, N. C.—A definite program in textile research, which will include a complete study of cotton, beginning with the soil in which the plant grows and following through ginning and continuing until the fibre is studied in every phase in textile manufacturing, including dyeing, mercerizing and finishing, is being launched at State College.

James McDowell, famous cotton technologist of New England, who spent the past week at State College, says that he finds here every contributing factor necessary for the conduct of this "Field to Fabric" program of research in the textile industry which will mean millions of dollars not only for the people of North Carolina but for the whole country. State College, he declares, is better equipped to conduct such a program and do it under natural conditions than any other place in America.

The soil and fertilizer studies will be made in the division of agronomy, school agriculture, under the direction of Prof. W. F. Pate.

The work in seed selection and plant breeding, which has been going on at State College during the past thirteen years with excellent results, under the direction of Dr. Winters, will be correlated with the other research. In order to demonstrate the feasibility of the production and manufacture of fine goods, the State College farm will produce a cotton of 1¼-inch staple which the Textile School will manufacture into fine and fancy grades of yarns and fabrics for demonstration purposes.

In the plant physiology laboratory of the department of Botany, investigation will be made relative to the influence of the cotton fabric. This work will be conducted by Dr. L. V. Pressin, under the direction of Dr. B. W. Wells.

In the textile research laboratories one of the projects undertaken at this time will be the study of the moisture content of the raw cotton. This study will continue through the different stages of the production and manufacture of goods. Research in connection with yarns and fabrics will consist of studies in the affinity of various fibres for dyestuffs, convolutions of fibres and their relation to strength. The adaptability of various fibres for mercerization, not only for strength but also for lustre and finish, will be studied.

The research program will contribute in no small way to the manufacturing industry which is at present only in its infancy in this section.

LET US "DOPE OUT" A BETTER SHUTTLE FOR YOU

A MILL★ WEAVING COLLAR CLOTH
WANTED A BETTER SELF-THREADER AND
BOBBIN-GRIP TO GET AN INCREASE IN
QUANTITY AND A BETTER QUALITY OF
CLOTH.

SHAMBOW "DOPED OUT" THE RIGHT SHUTTLE FOR THEM

★By Permission
Mill's Name Can Be
Given on Request.

WRITE

SHAMBOW SHUTTLE CO.
WOONSOCKET, R. I. GREENVILLE, S. C.
PATERSON, N. J.

MATHIESON Chemicals

Aqua Ammonia for Textile Processing

TO further serve the chemical requirements of Southern textile mills, we have now established warehouse stocks of Aqua Ammonia at several distributing centers in the South.

Stocks are at present located in:

CHARLOTTE

CHATTANOOGA

NEW ORLEANS

As rapidly as the growing volume of business warrants, we will add warehouse stocks at other points throughout the Southern States. Mathieson Aqua Ammonia, 26°, is furnished in standard 110-gal. drums and is a synthetic product of exceptional purity.

We solicit inquiries from all consumers and are prepared to work with textile processors in every possible way. Write us fully of your Aqua Ammonia requirements and we will be glad to give quotations and full information regarding our product.

The **MATHIESON ALKALI WORKS Inc.**
25 WEST 43rd STREET NEW YORK CITY

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PROVIDENCE

CHICAGO
CHARLOTTE

Deal Direct with

the Manufacturer

*Bicarbonate of Soda
Liquid Chlorine-Caustic Soda*



*Sesquicarbonate of Soda
Bleaching Powder-Soda Ash*

Knitters Cutting Shipping Costs

DURING the past ten years the cost of wood cases used for shipping underwear has increased 100 per cent, and all evidence at hand indicates that the advance will continue indefinitely.

Since May this association, co-operating with the National Container Association which includes 75 of the leading makers of fibre boxes producing 75 per cent of the country's output, has been studying sales and shipping conditions with a view toward reducing the cost of packing merchandise and of shipping. Surveys have been made in several mills in various sections of the country.

Save \$250,000 in One Mill.

After studying conditions in the first mill surveyed, it was proven that the use of fibre boxes instead of wood would mean a saving of \$125,000 in that one mill in a sub-normal year, or \$250,000 in a normal year. Consider the number of underwear knitting mills there are in the United States and consider the saving such a change would mean to the industry as a whole.

In each mill surveyed hidden wood-case costs were unearthed that were formerly charged against labor and various other headings not directly connected with the item where the charge should have been placed.

Must Cut Number of Box Sizes.

During the past few years the industry has been confronted with the necessity for reducing the number of sizes of paper and wood boxes used for shipping underwear. Wholesale buying methods have also made it necessary to reduce the number of units shipped in each case. These changes in specifications have proven that a tremendous saving can be effected by shipping in fibre boxes instead of in wooden cases.

Objection was raised to the use of fibre cases in some instances by jobbers who declared that the charge for trucking one wooden case from the freight station to the warehouse was less than half the cost of trucking several fibre cases holding the same quantity of underwear. This objection was overruled, however, when it was shown that the jobber had not taken into consideration the reduction in the cost of freight by use of the lighter fibre box; convenience in handling in weights of 80 to 90 pounds; saving of 25 to 50 per cent in storage space, and the fact that fibre boxes can be reshipped if packed properly. This would save the jobbers thousands of dollars annually.

The objection to fibre cases containing six dozen garments each as compared with the standard wood

cases holding 24 dozen was raised by one mill operator on the ground that if the smaller cases were used jobbers would place their orders in smaller quantities. But the jobber does not order case lots for the purpose of helping the manufacturer use up his boxes; he orders exactly what he wants and if he wants less than a case it is up to the manufacturer to pack accordingly. If the jobber doesn't want a full case he will not buy that much.

Jobbing Salesmen no Longer Travel.

Time was when jobbers' salesmen traveled their territories and their orders were placed with the mills, supplemented by orders for two or three times the quantities sold by the road men which the jobbers carried as stock. But for the past two years jobbing salesmen have not traveled as they did, nor have jobbers placed stock orders sufficient to care for the requirements of their customers. At times retail merchants have had to wait weeks for merchandise that the jobber should have had in stock subject to immediate shipment. As a result mills have been rushed with small orders which could not be made up at a profit, and the jobber has demanded immediate shipment.

This situation has caused a terrific repack condition in the mills, who have been forced to carry the

stock once held by the jobber. As stock overflowed the storage space in the mills, outside storage space has had to be secured, and mills have been confronted with enormous extra costs. In the mill found to have the lowest labor and trucking costs of any surveyed, it was found that every 36 dozen wood cases recalled from outside storage when repacked cost the mill 45 cents, and the minimum cost of repacking cases stored within the mill was 12½ cents each. This in a district where labor costs are at a minimum.

The 24-dozen case is fast becoming obsolete; mills that have experimented with 12-dozen cases have found results much more satisfactory, and some mills have already adopted six-dozen cases which require no repacking. These shipments, in fibre cases, have been shipped by weight for months without any complaint as to condition of contents upon arrival. One mill that shipped 31,000 fibre boxes by express during 1923 without a complaint now plans to use similar boxes for freight shipments; there is no harder test for any case or box than an express shipment.

The only problems confronting the shipper who would use fibre cases deal with shipments to jobbers. The

(Continued on Page 31)

It's Equal to the Task! SLIP-NOT

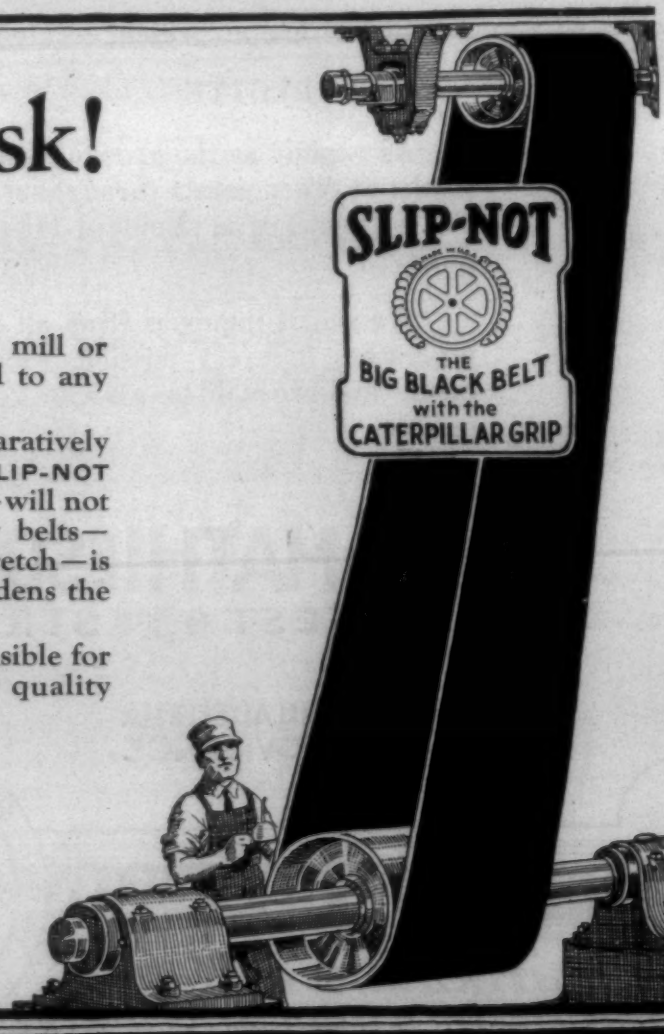
When you put **SLIP-NOT** Leather Belting to work in your mill or plant, there's full satisfaction in the thought that it is equal to any task you put it to.

True, **SLIP-NOT** is young in years. But even in the comparatively brief period it has been serving power transmission needs **SLIP-NOT** has demonstrated its ability. It assures 100% pulley contact—will not slip—transmits 20% to 40% more power than other new belts—reduces wear on bearings—is free from objectionable stretch—is waterproof. Besides, it possesses that rare quality that gladdens the heart of all belt users—*long life*.

All of which is due to the fact that those who are responsible for **SLIP-NOT** know exactly the requirements necessary for quality leather belting.

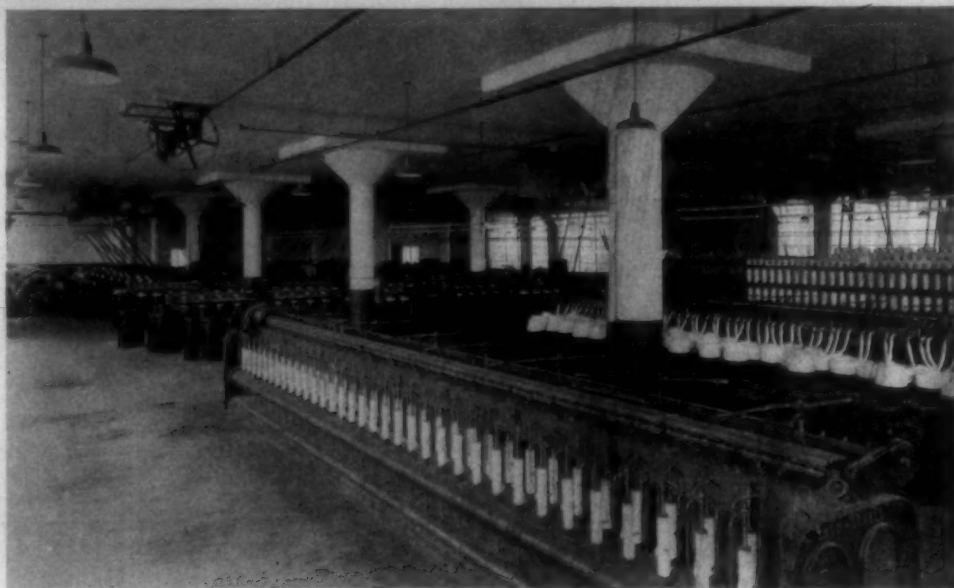
SLIP-NOT dealers will be glad to tell you more about this super-quality belting.

SLIP-NOT BELTING CORPORATION
KINGSPORT, TENNESSEE



SACO - LOWELL

LARGEST MANUFACTURERS OF TEXTILE MACHINERY IN AMERICA



A Modern Card Room, Miller Cotton Mills Dept, C. R. Miller Manufacturing Co., Waco, Texas

This modern cotton mill, which is the last word in buildings and equipment, uses Saco-Lowell machinery to manufacture their high-grade denims.

Send for one of our sales engineers and let us help you modernize your old mill.

SACO-LOWELL SHOPS

1824

1925

NO. 1 FEDERAL STREET,
BOSTON, MASS.

SALES OFFICES
1220 MINT STREET
CHARLOTTE, N. C.

MASONIC BUILDING
GREENVILLE, S. C.

Textile Handbook

The Research Staff of the E. F. Houghton & Co., Philadelphia, Pa., has just issued a "Textile Handbook—Cotton Edition." The book is a complete treatise on the manufacture of cotton. Beginning with the cultivation of cotton, the text traces the staple through the various processes at the mills. It is written in clear and practical language and will be found one of the most interesting and most valuable works on the subject. It contains no reference by trademark, brand or name to any Houghton product, but is a strictly technical work which sets forth, step by step, every stage of cotton manufacture from the cultivation of the cotton fibre to the manufacture of finished yarns and cloths.

This handbook not only describes every cotton manufacturing operation in detail, but carries 79 illustrations showing the various operations. At each stage the machinery is illustrated, together with cross-section views that trace the stock in process.

The illustrations are exceedingly effective and with the text matter clearly set forth the subjects covered in a manner that is both easy to read and easy to follow. The book will prove not only a valuable aid to the beginner in cotton manufacturing, but an excellent reference work for the experienced manufacturer.

The chapter headings show that the following subjects are covered

in the book: Cotton production, ginning, cotton classification and grading, carding, combing, drawing, slubbing and roving, spinning, weaving, warping, slashing of warp yarns, composition of size, analyses of sized and unsized yarns, starch, preparation of size, weaving, cloth, humidity, calculations for cotton mills.

The appendix carries photo-microscopic views of cotton yarn cross sections. There are also a number of plates showing analyses of sized and unsized yarns, cross sections of yarns magnified and a number of valuable tables.

It is particularly interesting to note that the "Textile Handbook" was edited and completed in every detail within the Houghton organization. The microphotographic plates, the typesetting, printing and binding were all done in the Houghton print-shop.

The book is the first of a series of handbooks which will be issued by the Houghton organization. Copies may be had by addressing the Philadelphia office of the company.

New Catalog From American Laundry Machinery Co.

The American Laundry Machinery Company, of Cincinnati, O., has just issued a new catalog describing their textile machinery. The book completely describes the large line of dyeing machinery, finishing and washing machinery, extractors, dye kettles, hosiery presses and other equipment manufactured for textile

mills. The descriptive matter accurately and concisely explains the various machines manufactured by the company and the text matter is attractively illustrated throughout. The layout and printing of the catalog is unusually good and it is attracting wide attention in the trade.

Says South Will Dominate Textile Field

That the South is destined to dominate the textile industry of the country, and that, at no very distant future date, was the prediction made by James McDowell, of Boston, at a conference at the Hotel Charlotte, Charlotte, at which the following were present:

Dr. E. C. Brooks, president of State A. & E. College, Raleigh; Chas. A. Cannon, of Kannapolis; Pascal Boyd, of Mooresville; Arthur M. Dixon, of Gastonia; A. C. Lineberger, Jr., of Belmont; O. Max Gardner, of Shelby; E. C. Dwelle, S. B. Alexander and W. D. Adams, all of Charlotte.

This remark made by Mr. McDowell, one of the greatest textile research specialists in the country, a Scotchman by birth and formerly of the staff of the Shirley Institute, of Manchester, England, was incidental to a review of a survey he has just made of the possibilities of future development in North Carolina.

Mr. McDowell's visit was on Dr. Brooks' invitation with a view of seeing if something could not be

done to induce him to come to North Carolina in the near future to assist in an advisory and supervisory way, in contemplated plans looking to the establishment of a textile research laboratory in the State. Manufacturers were invited in to lay the matter before them for their reaction to the large plans in view. Mr. McDowell for years past has been in charge of research work in New Bedford.

According to Mr. McDowell there is a wonderful field before North Carolina cotton manufacturers. Diversification of product and the manufacture of finer goods is imperative and this is just the development along which so many local manufacturers are thinking. In order to diversify there must be additions made and these changes will bring about new problems. In the consideration and solution of such problems, the research laboratory will play a most vital and important part.

Dr. Brooks outlined in a very interesting fashion just what he hopes to make effective at State College. With the other departments co-operating, he hopes, if the necessary arrangements can be made, to institute a laboratory at Raleigh, with a branch unit, probably at Charlotte, to which manufacturers could submit any perplexing matters for expert assistance and counsel.

These questions would relate to any phase of operations and would cover the whole range of the industry, concerning new material, conditions under which operations

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are carried on, finishing and a thousand and one details intervening. Dr. Brooks pointed out that the cotton industry is the greatest single industry in the State and that there is, in his judgment, a real and definite need for such work.

That there is the closest and most inter-related dependency between cotton manufacturing and cotton growing was pointed out by Mr. McDowell. Greater attention, he said, should be paid by manufacturers to the fiber they use, for the raw material factor in operations is fundamental. No mill can achieve the best results unless it gives due and proper consideration to the kind and character of fiber it spins. Many mills are using cotton not best adapted to economical results from the viewpoint of efficiency of production. Tests should constantly be made, particularly with those spinning locally purchased staple, to see if the staple they are consuming is the best possible, and just here research would be invaluable, as well as in other lines. Problems within the mill are constantly arising and questions outside, likewise, that could be quickly and economically served by means of a testing station where contact would be had with the industry and a central research laboratory.

In the discussion that followed the idea and plans were more generally elaborated.

Questioned as to the future, particularly with reference to the

many fine yarn mills in this section, Mr. McDowell stated that unquestionably they would be forced, sooner or later, to install looms and thus manufacture a product that would be more readily and constantly in demand by the consuming trade. This trend, he added, is already making headway and is logical and imperative.

Warns Growers of Boll Weevil

New Orleans, La.—Enough weevils will emerge by hibernation to develop into a destructive army if the weather in April, May and June of 1925 favor weevil development and the drouth of the summer of 1926 will not assure freedom from weevil menace to cotton this year, it was declared by Clarence Ousley, director of the National Boll Weevil Control Association after a visit to the United States Department of Agriculture's boll weevil experiment station at Tallulah, La.

The statement follows in part:

"Contrary to a popular impression which seems rather widespread, there is no good reason for cotton farmers to expect in 1925 immunity from the boll weevil. Last year's weather conditions were happily unfavorable to weevil development and favorable to cotton growers. It is about the third such experience in 30 years and to assume that it

will be repeated in 1925 is to make a very dangerous gamble.

Must Practice Control.

"On the other hand, by the practice of the cultural methods now thoroughly tested and demonstrated in every cotton State by the practice of the processes of control by poison equally tested and widely demonstrated, the cotton belt by intelligence and industry need not have no fear of being able to control the weevil provided only that the farmers do not trust to the luck of the weather but make the most of the information which has been gathered for them by painstaking research and confirmed by the best farmers in every cotton community.

"After a visit to the United States Department of Agriculture's experiment station at Tallulah, La., and consulting the records there, I find there has been a variable crop of boll weevils going into hibernation. In typical regions in the west of the cotton belt the number is rather small in some sections and about the average in others. East of the Mississippi river, the numbers are much larger and in some parts of the Southeast are very large.

Obtain Variable Results.

"Observations of survival to this date show variable results. Generally speaking, the survival is no larger than in the years for which records have been kept; that is, from 1915 to 1924. For example, it varies from 16 at Tallulah, La., to 104 a ton of moss at Washington,

La., for the period of late October to the middle of December. At St. George, S. C., at the middle of December, it was 192 and in the region of Valdosta, Ga., it was 38. These figures merely indicate the varying circumstances of weather and of location.

"It remains to be seen at the close of the winter, that is, about the last of February or the first of March, how many weevils will finally emerge for the spring attack upon the cotton crop but there is not the slightest reason in the experience of 30 years nor in the minutes to observations and records of the scientists to believe that the weevil has been eradicated or been reduced below the point of danger.

"Whatever the number of weevils in hibernation and whatever the percentage of emergence, all experience teaches that enough weevils will emerge to develop speedily into a destructive army if the weather in April, May and June favors weevil development."

Cotton Manufacturing Ranks Tenth In Canadian Industries.

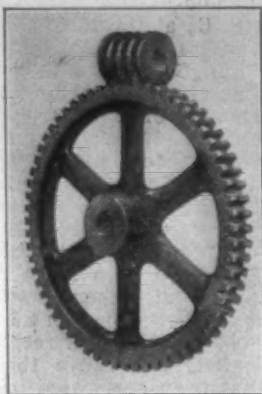
The cotton textile industry ranks tenth in Canadian industries, in point of aggregate value of annual production, according to official Canadian figures, for the year 1921. Textile plants in 1922 employed 19,941 people, and it is estimated that the industry was running at about 50 per cent capacity during 1923 and the early part of 1924.



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Practical Discussions By Practical Men

Size of Roving Cans.

Editor:

Please allow me space on your Discussion Page for the following questions:

1. Would it be practical to use an 18-inch can on the front of cards instead of a 12-inch card for the sliver?

2. Would the larger can keep down lots of bad work at drawing or would this larger can be in the way of the drawing?

3. Why not cut the doublings down from 6 to 4? Would it be good business to do this? Carder.

Answer to L. H. J.

Editor:

In answer to L. H. J. in regard to spinning 26s warp, I think that 112 R.P.M. for the front roll would be a very good speed, especially when using $\frac{3}{8}$ -inch cotton. However, the writer knows of mills that are using a higher speed than this and also of mills using a lower speed, conditions being better or worse, whichever the case may be. At the speed I mentioned, production should be 1.40 pounds per spindle per 60 hours. This allows 10 per cent for doffing, oiling and cleaning.

Mississippi Spinner.

Answer to L. H. J.

Editor:

In answer to L. H. J., if I were spinning 26s warp yarn, single ply, on filling wind, and had $1\frac{1}{4}$ -inch ring, and 7-inch traverse, $2\frac{1}{4}$ -inch space, $\frac{3}{8}$ -inch cotton, I would run my front rolls around 135 R.P.M. and spindles 9,000. I think this would prevent the yarn breaking at the travelers. The above layout should give a production of about 168 pounds per spindle per 60-hour week, which is satisfactory in every respect.

Old Timer.

Answer to Treasurer.

Editor:

In reply to Treasurer's inquiry relative to reedy cloth on twills, I find it is always best to weave twills with face up. You can set the harness to better advantage and see just what effect they have on the cloth. To make a nice, smooth twill, it is necessary to have even running yarn. You can't get it with yarn of uneven diameter. Another point is that old twine harness will stretch and cause the harness eyes to be out of line. This will cause an uneven shade in lifting and depressing the yarn. The reed should be of the oval dent type, giving the yarn the freedom to take its proper position without crowding it. Each shade should lift to the same height, giving ample room for the shuttle to clear. By so doing you equalize the strain on each thread and make a smooth piece of goods.

Reedy cloth can be made by trying to crowd too many threads in a

given space. Now, if you are running to up and one down and making reedy cloth, why not reverse it? If you get rid of your reedy cloth it will show you the best way to run the harness. I judge from your position that you are running two up and one down.

O. T.—N.C.

Answer to Inquirer.

Editor:

Inquirer asks if anyone ever saw a weave room that did not make any seconds. Yes, I saw a room where they had two looms run by hand power making rag rugs. There were no seconds. As to a mill operated by steam or electric power with looms running, I never had the pleasure of seeing such a place.

As to making spools without snarls, this is possible by keeping the traverse motion free from any obstruction. Set thread guides so they will miss the head of the spool top and bottom by $1\frac{1}{4}$ -16-inch. Then have the man in charge of the spooling frames go over them each day and see that the setting points for each spool are O. K. By so doing, you can make spools that always run right and have no waste.

O. T.—N. C.

Answer to Inquirer.

Editor:

In answer to Inquirer, will say that I never knew of but one weave room that wasn't making seconds, and it was not running. But I sure would like to learn all there is to know about reducing seconds to the lowest point.

"N. C. Man."

Answer to L. H. J.

Editor:

I have read the inquiry from L. H. J. about making 26s yarn and how it runs regardless of speed. As he does not say whether he runs double or single roving and makes no mention of his draft, I will have to assume that he has double roving for 26-1 and puts in 24-22 turns twist. His trouble, no doubt, is caused by overdraft in making the roving in some machine before it reaches him. This causes thick and thin places in the yarn and makes it break down under the weight (pull) of the travelers. As to the stroke, he uses $\frac{3}{8}$. Upon close examination he will find it as follows: Forty per cent $\frac{3}{8}$ and 60 per cent $\frac{1}{4}$. Therefore you will have to allow for the trouble at some other place. Trace back to the drawing frames and see if the sliver shows thick and thin places. If so, start there to get rid of the trouble. There is no reason for trouble with No. 26s yarn provided you have your rings and spindles set; rollers set properly; oiled and cleaned regularly and have no draft over 11.50, with a spindle speed, say, of 9,000 R.P.M., with a 6-0 round point traveler and enough twist in the roving to pre-

vent any possible chance of stretching in the creel.

It may be to advantage in this case to run the wind up fast and down slow. This will prevent slubbing off at the spoolers and the spinners will not tangle the bobbins when removing them to piece up ends. If the size of your bobbin barrel is too small it will cause the ends to snap off at the nose or small part of the bobbin unless you have a light traveler. Hope this will start you on easy street and keep you out of trouble.

Old Timer—N. C.

Answer to Second Hand.

Editor:

To advance himself, Second Hand should watch the ads in this paper. If you do not take the Southern Textile Bulletin you should subscribe at once. Also join the Employment Bureau. Many a man owes his advancement to the good advertisements found in a textile paper. Many a worthy man would have been advanced and promoted if he had only read a good textile paper. This is the first big consideration you owe to yourself.

Now, when you see an ad inquiring for an overseer in your line, telephone or telegraph at once for interview. Also write at once telling all about yourself. They will want to know if you are married, age and nationality. Do you go to church? Are you a hard worker? Good manager of help? Tell them your experience—where you have worked, how long in each place and what success you've had. Why do you want to change. Don't mention pay. Start for what you can get and get more pay by results.

When you are granted an interview be tactful. Be a good listener. Don't know it all. Remember that mill operated successfully a long time before you applied for the job. Praise up your predecessor's good points.

A boss spinner once got a good job by interview because he examined the steel rolls with a pick glass.

A master mechanic once got a good job by balancing a quarter of a dollar piece on the engine cylinder where he worked. He showed this up successfully to the man who came to see about hiring him.

Show what you can do.

"Success."

Answer to Treasurer.

Editor:

In answer to "Treasurer," I submit the following:

Filling twills and warp twills are different and have to be treated different. However, the best we can do is to make the goods with the face up. Filling twills with the face up is made with one harness up and the others down. All miss-draws

and threads out will show on the face of filling twills, therefore it is necessary to have the face up, so that the weaver can find the imperfections. Unless the reed is drawn one or two threads per dent, it is part to show up reedy on a filling twill. Weaving the same goods one down and the balance up, will overcome the reedy appearance of the goods but imperfections such as threads out and wrong draws cannot be seen by the weaver because the back of the cloth will be up.

On warp twills everything works right the reverse. Shuttle marks show on the twill side of the cloth and for this reason most people run the face up, threads out shows on the back. One up and the balance down on warp twills throws the back up. One down and the balance up throws the face up.

I am making 3-leaf twills of the 4.00 kind, and what I say is from experience, as I have tested it out both ways. N. C. Man.

Speeder Asks Why He Loses Production.

Editor:

Mr. Speeder, you are up against a very common error which can be easily explained, and yet this technical matter of speed is not generally well understood by many mill men. You will understand, if you study carefully, that when you increased the thickness of your belting, you also as good as increased the diameter of your pulleys. But while you increased the diameter of the driving pulley, at the same time that you did the driven pulley, the driven pulley got the worst of the bargain, because it increased in size faster or more in proportion than the driving pulley. It is not generally realized that belts do not revolve on their driving edges or on their driving surfaces. In reality and in practice the belts revolve and drive on their centres. Therefore when you were driving your cylinder pulleys with a single leather 3-16 inches thick, your driven pulleys were virtually 12 3-16 inches in diameter and your 40-inch pulleys were 40 3-16 inches in diameter. The shafting was revolving about 300 R.P.M. + Now when you changed to the heavy double belting you increased the thickness to 3/4-inch of an inch. As this belting also drives on its centres, the 12-inch pulley was increased to 12 3/4 inches diameter and the 40-inch became 40 3/4 inches diameter. But please note that this added 33-16 of an inch to a 12 3-16 inches in diameter pulley as well as 3-16 inches to the size of the 40 3-16-inch pulley. This increased the size of the smaller pulley 1 54-100 per cent but it increased the size of the larger pulley only 46-100 of 1 per cent and your speed was reduced by just this difference, viz., $1 \frac{54}{100} - 46 = 1 \frac{8}{100}$ per cent—a little over 1 per cent. And 1 per cent of 1,000 R.P.M. of the cylinder equals 10 R.P.M. slower, and this made a difference of 100 R.P.M. slower on your spindles. This difference explains why your production has dropped 1,000 pounds per week or 1 per cent + of your total production. "Power."

Answer to "Young Spinner."

Editor.

If you will allow me the space, I will be glad to explain to "Young Spinner" how he can learn more about the interesting matter connected with the speed of the ring travelers.

The speed depends upon the size of the ring, the size of the bobbin, and the speed of the spindle, also the twist which is being put into the yarn. So you see there are four important things to be considered. But on general principles, where you have a two-inch ring and a speed of 10,000 R.P.M. of the spindles, the ring traveler is moving at about a speed of one mile per minute. But the speed is not always the same. The speed will vary all the time from the empty bobbin to the full bobbin. This is because the yarn being delivered by the front roll will wind around the empty bobbin faster than when the bobbin is larger and being filled.

If a two-inch ring is in use, the race course of the traveler around the ring will be equal to the distance of $2 \times 3.1416 = 6.2832$ inches. If the spindle revolves 10,000 R.P.M. $10,000 \times 6.2832 = 62,832$ inches. This divided by 12 inches equals 5,236 feet, or nearly one mile per minute. Now we must deduct the number of times that the yarn winds around the bobbin, because for every time the yarn winds once around the bobbin, the ring traveler loses one R.P.M. or 6.2832 inches of movement. If the front roll is revolving 150 R.P.M. and is one inch in diameter it will deliver $3.1416 \times 150 = 471 \frac{24}{100}$ inches of yarn. Now if the empty bobbin is one inch in diameter it will take as many circles as $471 \frac{24}{100} \div 3.1416$ and which equals 150 times the yarn is wound around the bobbin in one minute, and this must be deducted from the speed of the ring traveler. $150 \times 6.2832 = 942.48$ feet which the traveler does not need to travel. $5,236 - 942 = 4,294$ feet. But when the bobbin is full and it is practically two inches in diameter, the yarn will wind around only one-half as fast as when the bobbin is empty, or $942 \frac{48}{100} \div 2 = 471 \frac{24}{100}$ feet. $942 \frac{48}{100} - 471 \frac{24}{100} = 471 \frac{24}{100}$ feet. $4,294 - 471 \frac{24}{100} = 3,822 \frac{76}{100}$ feet.

$5,236 - 706 = 4,530$ feet and which equals the average speed of the traveler per minute.

"Computer."

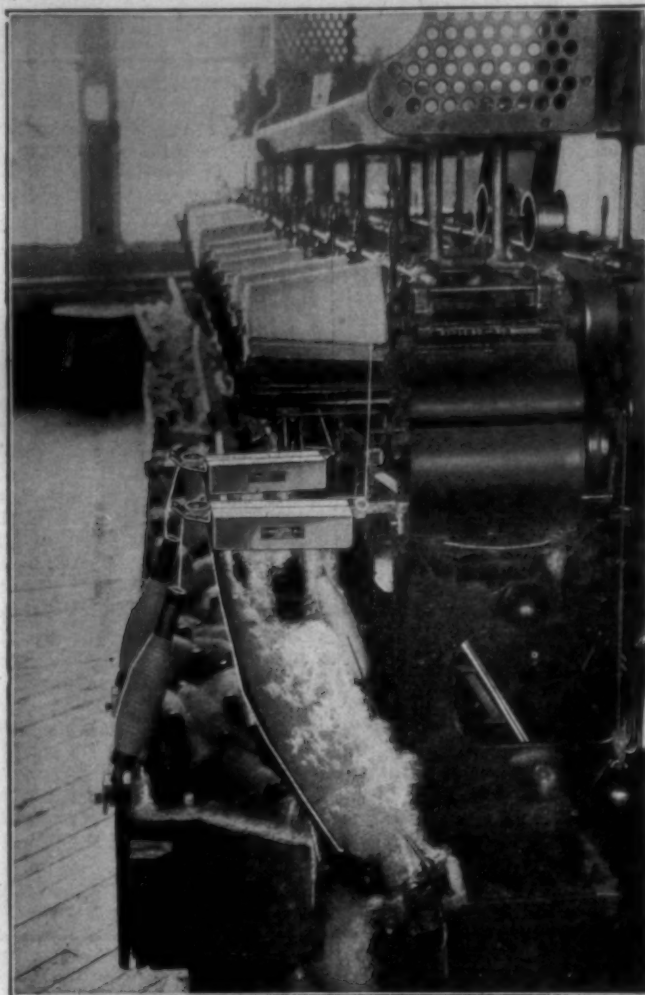
Answer to "Slug."

Editor:

In reply to "Slug," I want to say that you have asked a big question and you have a big job on your hands. But you can get rid of the slugs by hard work and close attention to business. Some very good articles have been published in the textile papers on this subject and you should watch their columns to get this inside information. But I will try to help you out of your trouble. First, you must find out where they come from, and then work like a Trojan to get rid of the cause. There are upwards of fifty different causes for slugs, chief of which are as follows:

1. From inside of the roving bobbins.

(Continued on Page 32)



Mr. Knitter—Do You Realize Your Loss From Waste?

How often do your knitting machines stop because of slubs—heavy and light spots in the yarn?

Do you know the loss of production from this cause? Do you know the amount in dollars and cents—that is, lost in waste that is thrown under the cutter's table due to cutting out holes through the use of imperfect yarn?

Do you realize the difference in production between running good yarn and bad yarn? With labor high, even the same percentage of waste in manufacturing becomes a heavier charge against your costs. Are you taking the best means of meeting this situation?

The successful men in the production of knitted textiles are those who, under the pressure of high prices, make use of the most effective methods of avoiding waste in manufacturing operations.

A Knitter can cut down waste in his plant and increase his production by using the best grade of yarn—that is, free as possible from imperfections. If a lower grade contains even one more imperfection to the mile of 30/1, it means fourteen more imperfections to the pound—fourteen thousand more imperfections to the thousand pounds; one thousand pounds is a small quantity to the user of yarn. Fourteen more imperfections is a severe handicap in the manufacture of any product.

You can positively cut down the waste in production by equipping your winder with the Eclipse Yarn Cleaning Device. By using this cleaner, any grade of carded yarn can be made a ninety per cent better knitting yarn. You cannot appreciate this fact until after you have used the Eclipse Yarn Cleaner.

If you knit direct from cones, take this vital matter up with your "Spinner"—he can deliver you a better yarn.

Ask us to send you full information—or better still—we will send our representative to give you an actual demonstration upon your request. When you write, please mention the type of winder or spooler you use.

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Cotton Growing in Russia

The December issue of the International Cotton Bulletin contains an article by S. C. Condrasheff, senior scientist of the Russian Institute for Agricultural Improvement, in which are published the first detailed statistics of Russian cotton production which have been collected for some time. The following table showing acreage, production and yield for the years 1913 to 1924 is based on figures in this article.

	Acreage	Bales per 500 Lbs.	Yield lbs. per acre
1913	1,735,744	1,055,004	303.9
1914	1,994,534	1,214,332	304.4
1915	2,042,781	1,445,240	353.7
1916	2,092,758	1,145,864	273.8
1917	1,293,375	606,480	234.5
1918	364,864	153,479	210.3
1919*	373,437	77,642	103.9
1920	315,301	55,830	88.7
1921	296,134	41,276	69.8
1922	174,074	45,862	131.7
1923	545,890	184,680	169.2
1924	1,188,237	437,500	

*No data from one province for 1919.

In pre-war days Russia was an important producer of cotton and while little of the staple entered international trade it supplied the Russian mills with a great part of the necessary raw material. During the best years of cotton growing in Russia (1914-1916) the total acreage amounted to over 2,000,000. 1915 was the year of peak production when 1,445,240 bales were produced.

The following year the crop was somewhat less due to unfortunate weather conditions although the acreage planted was slightly greater.

Beginning in 1916 and 1917 one misfortune after another befell the Russian cotton growers. As the entire cotton crop is raised by irrigation a shortage of water in Central Asia in 1917 greatly curtailed production while the increased prices of other agricultural products tended to restrict the acreage planted to cotton. The greatest blow to cotton production was, of course, the revolution in Russia. Transportation and industry were so disorganized that the spinning mills of Russia were completely cut off from their supplies of raw cotton in the Central Asian provinces. This left the growers with no market for their staple and both acreage and production declined steadily from 1917 to 1922.

The pre-war cotton crops of Russia were remarkable for the high yield per acre obtained. In this respect Russia followed closely after Egypt and succeeded in raising nearly twice as much cotton per acre as the American farmer. Coincident with the decline in acreage a decline in yield was experienced. From a pre-war yield of over 300 pounds per acre the average dropped to less than 70 pounds in 1922. This falling off in productivity was due to a variety of causes, among others lack of fertilizer and generally careless method of culture due to the uncertainty of marketing the crop.

In 1921 the Soviet Government recognized the importance of retaining the cotton crop among Rus-

sia's resources and instituted the Head Cotton Committee with the object of promoting the industry in Central Asia. This committee did not begin to function until 1922 but through its efforts the cotton crop has been greatly increased in the past two years. The committee has devoted its attention to improving the methods of payment for cotton by eliminating much of the primitive barter procedure. It has also interested itself in modern methods of cultivating and improving the seed.

As a result of improved world conditions and the efforts of the Head Cotton Committee the 1924 cotton crop is more than twice as large as that of 1923. Although the 1924 crop is less than one-third of the record crop of 1915 the condition of the Russian cotton growing industry has improved immensely in the last few years. It is hoped that the cotton committee will succeed in restoring the Russian industry to pre-war productivity and it has laid plans for a progressive increase in acreage and yield for the next three or four years.

Exports in 1924 Increased

Washington.—Despite the fact that with the close of June, 1924, total exports of cotton cloths were 36,000,000 square yards less than for the first half of 1923, total exports for 1924 were approximately 13,500,000 square yards greater than in 1925, when exports were 464,520,000 square yards valued at \$79,357,000, as compared with 478,150,000 square yards valued at \$78,704,000 in 1924.

Exports for the fiscal year ended with June, 1913, were 444,729,000 square yards valued at \$30,661,000. While the total quantity exported during 1923 and 1924 was slightly greater than in 1913, a comparison of the value of the cloths shows the trend of the increased price of this class of merchandise now prevailing throughout the world.

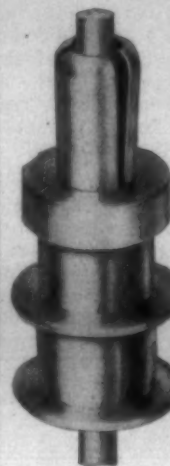
A peculiar feature of the data submitted by the Textile Division, Department of Commerce, shows that while the quantity exported during 1924 was over 13,000,000 square yards greater than during 1923, the value of goods exported in 1923 was over \$1,000,000 greater than during 1924.

Maintain Pre-War Trade.

The 1924 figures represent an increase of 7.5 per cent in quantity over those for 1913, and indicate that American exporters have been able to maintain the pre-war volume of trade and also hold some of the trade which was diverted to them during the war.

This is particularly true of Latin-America, where the United States' sales of cotton cloth have increased from 158,246,000 yards in 1913 to 341,510,000 square yards during 1924. The improvement in some of the individual markets is even more pronounced. Cuban purchases having risen from 22,000,000 yards in 1913 to 81,000,000 in 1924, and Mexico bought 18,000,000 square yards in 1924 against 2,648,000 in 1913. South America took 54,000,000 yards of American piece goods in 1913 and 126,000,000 square yards in 1924,

Look Over Your Spindles Now And Be Prepared



Get 8 to 10% more yarn on your bobbins by equipping your spindles with our Patented Clutch.

Don't run your spindles with worn out whorls cut in by bands, which changes the speed of your spindles, therefore making uneven yarn.

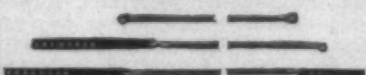
Let us change your whorls on spindles, repoint and restraighten same, and save you money.

Fournier & Lemoine
Linwood, Mass.

Improved Dobby Chain



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Rice Dobby Chain Co.
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Send Us Your Order Today

Save in freight by using

W I L T S

Veneer Packing Cases

They are lighter and stronger, made of perfect 3-ply Veneer Packing Case Shooks. A saving of 20 to 30 pounds in freight on every shipment because of extreme lightness. Stronger than inch boards, burglarproof, waterproof and clean. Write for prices and samples. Convincing prices—Quick service.
Wilts Veneer Co., Richmond, Va.

SPINNING RING SPECIALISTS
FOR MORE THAN FIFTY YEARS

SPINNING RINGS
TWISTER RINGS
SILK RINGS



DIAMOND FINISH
TRAVELLER CLEANERS
TRAVELLER CUPS
GUIDE WIRE SETS

WHITINSVILLE
SPINNING RING CO.
WHITINSVILLE, MASS.

while exports to Central America increased from 34,000,000 to almost 63,000,000.

At least a part of these gains seem to have been made at the expense of British goods, for the British exports to Latin-America declined from 715,489,000 yards in 1913 to 408,857,000 square yards in 1924.

Orient Takes Business.

The darker side of the picture, however, is the loss of business in near and far eastern market—Aden, Turkey, the Philippines, and China. American lines of gray goods have suffered severely from Japanese competition in Turkey and countries for which Aden is the port of transshipment. Chinese gray goods are securing an important share of the Philippine trade, and Japanese prints and dyed goods have also invaded that market at the expense of American products.

Indian Textile Production.

The textile market in India remains dull with little demand for either cloth or yarn. Stocks of cotton goods in the Bombay mills have increased about 8 per cent during the past month. Trade Commissioner Spofford, Bombay, reports to the Department of Commerce. There is general lack of interest up country in the foreign piece goods with no

disposition to purchase, but dealers anticipate a favorable turn in the near future. During the six months, April to September, 1924, Indian production of woven goods amounted to 961,765,000 yards weighing 221,327,000 pounds, a considerable increase over the output of 821,106,000 yards weighing 191,969,000 pounds during the corresponding period of 1923, according to statistics published by the Commercial Intelligence Department of India.

H. A. Metz Offers Prizes.

Col. Herman A. Metz, president of H. A. Metz & Co., Inc., believes that the surest way to perpetuate the importance and effectiveness of the dye and chemical industries is to awaken the interest of the younger generation in these branches.

That he employs practical methods in this laudable purpose is evidenced by a recent announcement of Prof. William H. Dooley, principal of the Textile High School, New York City, of the winners of the prizes offered by Col. Metz annually to students of this school in the chemical and dye courses.

Louis Zanelli and Solomon Kaplan were awarded first and second prizes, respectively, for their proficiency, both having completed the four-year course.



Planting, Like Painting, Increases Home Values

Have you ever stopped to consider the possibilities for outside improvement that your place offers? It may be a fine house surrounded by a good lawn, but if nothing has been done to tie it to the ground, or "build it" into the landscape, you have neglected just as important a detail in home making as omitting curtains or pictures from the interior. Broad-leaved Evergreens or flowering shrubs properly placed at the foundation and doorstep will give the much desired finish to the home's outside.

Brilliant Colors in Summer and Winter

There is a wonderful wealth of material to draw from in making these foundation and doorstep groups. There are cone-bearing and broad-leaved evergreens; there are many flowering shrubs with lovely colors all summer; there are shrubs which are very attractive in winter because of the brightly colored berries or brilliant twigs.

Such an improvement is neither difficult nor costly, and the investment pays wonderful returns should you wish to sell the place after we improve it. A well planted home, like one that is well painted, brings more than a neglected one.

Howard-Hickory Planting Service

You and the wife may have been considering planting the home grounds, but have hesitated because you were not quite sure how it should be done. Ask us to send a representative; he will tell you what to use, where to place it, and will tell you what it will cost. You will be surprised at the very reasonable price he will give you. Having agreed to have him make the planting, we will send men and materials just as soon as possible. These men will set the trees and shrubs under the direction of our representative. We guarantee work done by our men; plants dying within a year will be replaced free at the nursery. Plant this spring.

The Howard-Hickory Co.

Nurserymen—Landscape Gardeners

Hickory, N. C.

VOTE ON CHILD LABOR AMENDMENT

Including February 10, 1925

Ratified	House		Senate	
	For	Against	For	Against
Arizona	35	3	19	0
California	69	9	36	3
Partially Ratified				
*Arkansas	45	40	15	13
New Mexico	40	8	(11 to 10 for Ref.)	
Wisconsin	—	—	19	10
Rejected				
Connecticut	—	—	1	33
Delaware	0	35	0	17
Georgia	3	173	0	34
Idaho	18	38	—	—
Indiana	—	—	16	32
Kansas	20	101	9	30
Louisiana	25	57	—	—
Massachusetts	Advisory Referendum 247,000 to 696,000			
**Montana	86	11	24	29
Nevada	18	19	—	—
North Carolina	7	86	4	34
North Dakota	—	—	17	32
Ohio	35	92	—	—
Oklahoma	24	81	19	24
South Carolina	0	124	0	44
South Dakota	26	73	5	36
Tennessee	23	63	7	24
Texas	16	111	2	20
Utah	8	43	2	18
Washington	30	67	15	27
Wyoming	—	—	8	17
States Ratified	2			
States Partially Ratified	3			
Necessary to Complete Ratification	36			
States Rejected	21			
Necessary to Defeat	13			

*Arkansas Senate, by vote of 30 to 3, has withdrawn ratification. House will do likewise.

**Montana Senate rejected after House had ratified.

SOUTHERN TEXTILE BULLETIN

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DAVID CLARK
D. H. HILL, JR.
JUNIUS M. SMITH

Managing Editor
Associate Editor
Business Manager

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Advertising rates furnished upon application.
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The Result of New Equipment

CONSIDERABLE comment has been caused by the 1924 profits shown by three mills located not far from Charlotte.

While very few mills were able to present to their stockholders statements showing that they more than broke even, these three mills made net profits that would be considered very good in normal years.

It is significant to us that each of these mills were built in 1920 or 1921 and therefore were equipped with modern machinery.

When these mills were built many of the pessimists were shaking their heads and saying that no mill built at the prices of that period could become a paying investment.

We happen to know that one mill man, who made just such a remark, lost \$7 per spindle last year upon an old mill located within twenty miles of the three mills.

There may have been and probably were other factors in the success of the three mills but it is nevertheless a fact that their high production with resultant low cost of production and the superior quality of their yarns had a great deal to do with the profits that they made.

The South should realize that there have been improvements in textile machinery and that new and modern equipment can produce more and better goods at a lower cost of production than old equipment.

They should realize that it is expensive to operate old equipment and that in these days, of severe competition, the mill that is the best equipped is the one that is going to come out ahead.

It is not necessary to replace all of the equipment of any mill but in the average mill there are departments that need to be brought up to date.

We especially suggest improved

opening machinery, additional cards and the replacement of old spinning frames. There are other places where improvements can be made but we call especial attention to the results of improvements in these departments.

The need of improved opening machinery so that the cotton may be properly cleaned and go to the cards in an open and fluffy condition is now too well known to require much comment. The new opening machinery in many mills is enabling them to use a lower grade of cotton at a considerable saving in cost and yet get the same quality of goods that they formerly obtained from more expensive cotton.

Twenty years ago many mills carded 200 pounds or more per card per day but experience has shown that heavy carding damaged the cotton and produced much waste in the later processes.

The modern practice is to card 60 to 120 pounds per card per day, according to the numbers of yarn being spun, and it has been found that light carding not only reduces waste but greatly increases the production in the spinning and weaving rooms.

The labor cost of operating additional cards is very small and yet the better running work as the result of light carding often greatly decreases the production costs in later departments.

There are many mill managers who little realize the expense of operating old spinning frames. If they could realize that the same number of new spinning frames could be operated by the same or a less number of operators and yet by producing a much greater number of pounds, materially cut down the cost per pound, there would be many old frames scrapped.

The trouble is that many managers do not realize how far below modern standard production their spinning frames are producing.

While many mill men would question this statement, we believe it is

a fact that a majority of mills running on 20s are not averaging two pounds per spindle per week whereas mills with modern tape driven wide gauge frames are getting 2.40 or more pounds per spindle and pay a less price per side for spinners because of better running work.

The South must keep abreast of the times by continually installing modern machinery and should not continue to pay the costs of production required by the low production of old type machinery.

We know of one mill that is alright in every department except its spinning but because it clings to its old spinning frames the production each week is several thousand pounds less than it should be. Every pound of yarn produced carries the added expense of a higher labor cost than is necessary.

In periods of low prices and no profits it is just as important to reduce the cost of production as in periods of prosperity.

The three new mills that made such good profits last year strongly suggest the need of better equipment in some of the mills that did not do so well.

How Many Days in a Week

GOVERNOR BLAINE of Wisconsin, had been making some unjust criticisms of North Carolina child labor laws and a personal letter from us suggesting that he pay a little attention to the defects in his own law, raised his ire.

In his reply he compares the laws of Wisconsin and North Carolina and among his comparisons we find the following:

"Limit on number of days per week child under 16 may be employed in Wisconsin, 6; in North Carolina, no limit."

What is puzzling us is how many days there are in a week in Wisconsin.

Governor Blaine reminds us of a member of the North Carolina Legislature who a few years ago argued in all seriousness that the cotton mills in his town ran 13 hours on the day run and 12 hours at night.

Where Details Counted

ONE of our earliest moves in the Child Labor Amendment fight was to start a card index of those in each State who were actively opposed to the amendment and then keep each of them well informed through circular letters and clip sheets.

The advantage of such details is shown in the following letter from a worker in a State that has just defeated the amendment:

"I want to say to Mr. Clark that his little summing up which I received in the mail yesterday morning was a mighty big thing for us. I immediately made a call upon the Governor and it was so early that I had a free field and I showed him where it would be folly for us to refer the thing to the people because —would then not have the honor of rejecting the thing. So he called his private secretary and sent the little note and my remarks to his floor leader with

his own personal indorsement thereon. So we had the pleasure of hearing the Senate get in this little lick of ours very neatly to the Senate. It made a mighty good effect and then there was a general understanding that the Governor wanted the measure killed. It gave him an opportunity to do some private work among his followers so it was a very good thing indeed."

The Distribution of Truth

THE Capital Journal, of Pierre, S. D., had the following to say relative to the defeat of the Child Labor Amendment:

"The campaign of propaganda against this measure with which the country has been flooded since last fall proved too strong, and when the measure came to a vote the House followed in the footsteps of the Senate and defeated the resolution by a vote of 69 to 23."

They may call it propaganda but we call it the "dissemination of truth."

The advocates of the amendment distributed just as much propaganda as we did but the public realized the truth and sincerity of our statements.

Charlotte Labor Herald in Receiver's Hands

THE Charlotte Labor Herald, breeder of hatred and bitterness, has been placed in the hands of a receiver for the third time in its history and Jas. F. Barrett has secured employment upon a Washington paper.

There are many notes due to banks but the banks are not worrying because on the back of the notes are the names of men who never carried a union card.

The publication of a list of the endorsers would cause much speculation relative to the reasons for endorsing.

General Increase in Cotton Exports

THERE seems to be an impression that the increased exports of cotton are due solely to an improvement in demand in England but the following are Secretary Hester's export figures:

	(000 omitted)	
	Aug. 1, 1924, to Feb. 1, 1925.	Aug. 1, 1923, to Feb. 6, 1924.
To Great Britain	1,950	1,393
To France	662	534
To Continent	2,267	1,532
To Mexico	17	5
To Japan and China	630	433
Total exports	5,529	3,899

From these figures it will be seen that the foreign demand for American cotton is very well distributed over the world and would seem to indicate a revival of the cotton manufacturing business of the world.

The normal demand for American cotton as indicated by the average consumption during the three years prior to the war is 14,700,000 bales and some day the normal demand will again be felt.

Personal News

J. H. Gibson has resigned as overseer spinning at the Hartwell Mills No. 2, Toccoa, Ga.

J. A. White has been promoted to designer at the Erlanger Mills, Lexington, N. C.

B. Mickle has resigned as overseer weaving at the Wannonah Mills, Lexington, N. C.

from overseer carding to general overseer of carding and spinning at the Amazon Mills, Thomasville, N. C.

J. D. Mays has resigned as overseer spinning at the Chadwick-Hoskins Mill No. 5, Pineville, N. C.

H. T. Varner has become overseer spinning at the Pomona Mills, Greensboro, N. C.

W. W. Lyles has resigned as overseer of spinning at the Pomona Mills, Greensboro, N. C.

Otto Cox, of Greenwood, S. C., has become second hand in carding at the Pomona Mills, Greensboro, N. C.

J. A. Norris has resigned as overseer of No. 4 spinning at the Pelzer Manufacturing Company, Pelzer, S. C.

J. N. Capps, of the Capps Mills, Toccoa, Ga., has become overseer of spinning at the Hartwell Mills No. 2, Toccoa, Ga.

C. M. Phillips has accepted the position of overseer of weaving at the Erlanger Mills, Lexington, N. C.

J. A. Simpson has been promoted

S. C. Boss has accepted the position of overseer spooling, winding, twisting and warping at the Amazon Mills, Thomasville, N. C.

E. H. Mullis has become overseer spooling, winding, twisting and warping at night at the Amazon Mills, Thomasville, N. C.

H. C. Callahan has been promoted to superintendent of the Vass Cotton Mills, Vass, N. C., where he has been employed for 14 years.

E. M. Dees, formerly of Pineville, N. C., has become overseer of carding No. 1 at the Baldwin Mills, Chester, S. C.

W. C. Jenkins has resigned as second hand in finishing and cloth room at the Pomona Mills, Greensboro, N. C.

F. L. Holliday is now second hand in finishing and the cloth room at night at the Pomona Mills, Greensboro, N. C.

J. W. Brown has resigned as overseer spinning at the Clover Cotton Mills, Clover, S. C., and accepted a similar position at the Baldwin Mills, Chester, S. C.

J. M. Wofford has resigned as overseer carding at the Wannonah Mills, Lexington, N. C., and accepted a similar position at the Inverness Mills, Winston-Salem, N. C.

R. B. Hunt is now overseer carding and spinning at the Lullwater Manufacturing Company, Greenville, S. C.

R. T. LeGrange, superintendent of the Shelby Cotton Mills, Shelby, N. C., has been elected treasurer and manager and will continue to act as superintendent.

W. C. Bowden, of the Bibb Manufacturing Company, Columbus, Ga., has been appointed night superintendent of the Waco Twine Mills, Waco, Texas.

R. C. Simpson, formerly with the Brookford Mills, Brookford, N. C., has accepted the position of overseer weaving No. 2 at the Lancaster Cotton Mills, Lancaster, S. C.

J. R. Revels has resigned as second hand in spooling at the Edna Mills, Reidsville, N. C., and accepted a similar position at the Pomona Mills, Greensboro, N. C.

H. C. Turner, formerly superintendent of the Lullwater Manufacturing Company, Greenville, S. C., has accepted the position of overseer No. 4 spinning at the Pelzer Manufacturing Company, Pelzer, S. C.

Mill Girl a Cartoonist.

Miss Mildred Walker, 16-year-old employee of the Ranlo Manufacturing Company, is gaining quite a reputation as a cartoonist. Specimens of her work recently placed on exhibition have attracted a great deal of attention.

The New Mayor of Jefferson.

W. H. Epps, superintendent of the Jefferson (Ga.) Mills, has been elected mayor of Jefferson. As the mayor has to try all those who offend against the law, it is said that many of the colored brethren and sisters as well as bootleggers and speedsters are transferring their activities to fields outside the jurisdiction of "Judge" Epps.

Begging Congress To Go Easy.

The California Legislature, under pressure from an enormous lobby composed largely of women, passed the Child Labor Amendment and then after giving the unlimited power to Congress a large number of them signed the following pitiful plea:

"While we, the undersigned, voted in favor of the 'Child Labor Amendment,' believing that there were very good reasons why it should be adopted, we wish to ask the California Legislature to memorialize Congress never to exercise the authority that is given them by the proposed amendment as to the prohibiting of labor of persons under the age of 18 years, in wholesome agriculture pursuits."

The weak kneed signers of this declaration deserve anything that may be put upon them by Congress.

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Send to your Selling Agent
samples of

Sol-Ozone bleached goods—
cottons, woolens, silks.

He will be pleased to see
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Plushes
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"It gives an oily sheen"

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WORKS: BAYWAY, ELIZABETH, N. J.

MILL NEWS ITEMS OF INTEREST

Huntsville, Ala.—The Merrimack Manufacturing Company is having a new Parks-Cramer humidifying system installed in its plant here.

Huntsville, Ala.—The Margaret Cotton Mills, which have been idle for some time, have resumed full time operation.

Erwin, Tenn.—A cotton mill will probably be erected here, according to General Manager Phettplace, of the Clinchfield Railway.

Opelika, Ala.—It is reported that F. P. Sheldon & Sons, Providence, R. I., will be engineers for the new plant of the Peperell Manufacturing Company, Boston, Mass., which will be built here.

Columbus, Ga.—The Perkins Hosiery Mills have awarded contract to the Bahnson Company, Winston-Salem, N. C., for the installation of a new humidifying system.

Dalton, Ga.—Sale of the Elk Cotton Mills to the Dalton Cotton Mills, as reported last week, has been confirmed by the stockholders. The stock of the mill will be transferred on a basis of 312. It is understood that the Dalton Mills will enlarge the Elk plant.

Knoxville, Tenn.—The addition to the Ashe Hosiery Mills will be brick, one building 65x50 feet, two stories, a second building 73x40 feet to be equipped as a dyehouse. Will install ribbers, knitters and loopers. Buildings will cost \$20,000, equipment \$25,000. J. J. Ashe is president of the company, which manufactures infants' hosiery.

Asheville, N. C.—Plans and details for the complete development of Sayles Finishing Plants, Inc., industrial village development one and one-half miles from Biltmore, are being completed in the office of E. S. Draper, landscape architect and engineer, Charlotte, N. C. Plans show the eventual development of the property to include provision for store center, civic center, churches, school, playgrounds, etc.

Gastonia, N. C.—The annual meetings of the Modena and Ranlo Mills were held Tuesday. The old officers and directors were re-elected and T. L. Graig was added to the directorate of both mills. The Modena officers are John C. Rankin, president, W. T. Love, treasurer, S. A. Robinson, assistant treasurer and J. B. Reeves, vice-president and secretary. The Ranlo officers are John C. Rankin, president, W. J. Love, treasurer and J. B. Reeves, secretary. The meeting of the Priscilla Yarn mills was held Wednesday. The following officers were elected: W. T. Love, president, C. D. Gray, vice-president, S. A. Robinson, treasurer and J. B. Reeves, secretary and assistant treasurer. These four with R. M. Aycock constitute the board of directors.

Waco, Tex.—At the annual stockholders meeting of the Waco Twine Mills the following officers were elected: G. H. Penland, president; Tom Bush, vice-president; T. S. Corriher, secretary and treasurer; W. F. Smith, superintendent.

The mill is running day and night making a high grade wrapping and sewing twine. It has 3,536 ring spindles.

Piedmont, Ala.—The Standard-Coosa-Thatcher Company has completed arrangements for increasing the capacity of their local plant by one-third. They have purchased 28 acres of land and will erect 50 homes. They will install 65 additional cards, 26 combers, 3 sliver lap machines, ribbon lap machines, 30 deliveries of drawing, 2 slubbers, 24 twistors.

Shelby, N. C.—The Shelby Cotton Mills are rapidly completing their new addition and expect to have the looms in operation within the next three months.

At the annual meeting of the stockholders, R. T. LeGrange, who has been superintendent for the past eleven years, was elected treasurer and manager to succeed J. C. Smith, who died last fall. Mr. LeGrange will continue to act as superintendent.

Durham, N. C.—The Louise Knitting Mill is building a new plant to handle its finishing department and part of its knitting machinery. The company also has a mill at Jonesboro, N. C., and will move the finishing equipment from that point to the new mill here as soon as it is completed. Part of the knitting equipment will also be moved. It is planned to eventually move all machinery here and close the Jonesboro plant.

Dallas, Tex.—A new towel mill and a finishing plant will be erected at sites to be chosen by the executive committee of the directorate of the C. R. Miller Manufacturing Company. Conclusion of the negotiations followed meetings of the boards and stockholders of the various interested companies, with a meeting of the directors of the C. R. Miller Manufacturing Company held at Waco Thursday authorizing increase of the capital stock of the corporation from \$3,250,000 to \$6,000,000, thus making of the new organization one of the largest industrial concerns in the Southwest.

A contemplated new plant, to cost \$1,000,000, may be located at Dallas, at McKinney or in Waco, where the C. R. Miller Company's original mill is operated. It probably will be utilized for the manufacture of Turkish toweling. The four mills will consume about 165 bales of cotton daily. General offices of the company will be in Dallas.

The C. R. Miller Manufacturing Company was established in 1902 as an overall manufacturing concern. Its capital at that time was but \$3,500. Since that time the company has increased its net worth, according to a statement as of December 31, to about 588 times the original invested capital, while in the 22 years dividends have aggregated \$1,381,250. The Waco cotton mill was established in 1920 and has since operated on a full-time basis, with its product oversold far into 1925, a fact which necessitated the great program of expansion to be realized in the acquisition of the McKinney and Dallas mills and the building of the first Turkish toweling mill west of the Mississippi river.

Officers of the company are C. R. Miller, of Dallas, president; W. C. Stripling, of Fort Worth, vice-president; Hugh Clarke, of Waco, vice-president, and F. E. McCurdy, of Waco, secretary and treasurer.

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100 WORTH STREET

NEW YORK



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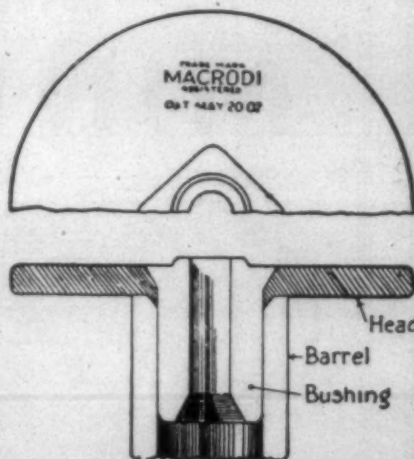
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WARP TYING MACHINES HAND KNOTTERS
WARP DRAWING MACHINES
AUTOMATIC SPOOLERS HIGH SPEED WARPERS

BARBER-COLMAN COMPANY

BOSTON, MASS. GREENVILLE, S. C.

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WARP SPOOL

after fourteen years of the hardest mill use has demonstrated that it is

Durable—Economical

Write for particulars of the added traverse with corresponding increase in yardage—an important feature of this spool.

Prompt deliveries in two to three weeks after receipt of order.

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Complete Topographic Surveys
General Designs, Planting, Grading
and Detail Plans
Supervision of Landscape and
Engineering Construction
Sewer and Water Development

Largest Landscape Organization in the South

Stanley, N. C.—The Lola Manufacturing Company began construction this week of a new plant to be equipped with beam dyeing machinery. The building will be located next to the No. 1 Mill.

Athens, Ala.—The Wellman Cotton Mills have been leased by Shelby S. Fletcher, of Huntsville, Ala., and E. L. Camp, of New York. The mill will be put into operation at an early date, with Mr. Fletcher as manager.

Charlotte, N. C.—The Brighton Mills, Passaic, N. J., which has been seeking a Southern site for some time, has not definitely determined the location. It is understood that negotiations with business men of Elberton, Ga., failed to go through and the mill will not be located there.

The Brighton Mills manufacture tire fabrics. They have 20,000 spindles which the company proposes to move South and install an additional 10,000. The yarns will be shipped to Passaic for weaving.

Tallapoosa, Ga.—The annual meeting of the stockholders of the Tallapoosa Mills was held at the office of the company here Tuesday. The following were elected as board of directors for the ensuing year: Arthur T. Bradlee, W. C. Ballard and G. H. Waterman, of Boston, Mass.; Edwin Hadley, of Charlotte, N. C.; I. S. Hopkins, of Atlanta, Ga.; A. V. Home, A. L. Jackson, C. E. Pearce and R. L. McMahan, of Tallapoosa.

The following were elected as officers of the company for the year: A. V. Home, president; R. L. McMahan, secretary and treasurer, and C. E. Pearce, agent.

Foremen at Trion Company Dine.

The foremen of the Trion Company Mill, Trion, Ga., gave an elaborate banquet at the Trion Y. M. C. A. Saturday night, January 31,

For Sale

8 Frames Fales & Jenks Spinning.
1 Foster Winder.
15,000 Spinning Bobbins.

Calhoun Yarn Mills
Calhoun, Ga.

ARTESIAN WELLS

27 Years' Experience

Nine Complete Rigs Operating in Every Southern State

Virginia Machinery & Well Co.
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Check Straps--

Lugs,

folded and stitched, cemented—

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Harness Straps--

Bumpers--

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We specialize and know your looms.

Ask your jobber.

The Druid Oak Belting Co., Inc.

Baltimore—Boston

WENTWORTH Double Duty Travelers

Last Longer, Make Stronger Yarn, Run Clear, Preserve the SPINNING RING. The greatest improvement entering the spinning room since the advent of the HIGH SPEED SPINDLE.

Manufactured only by the
National Ring Traveler Co.
Providence, R. I.
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Seydel-Thomas Co.

Textile Chemicals
for Best Weaving

Seyco Products

The result of twenty years' study and practice in treatment of Sizing and finishing problems.

Main Office and Plant, 35 Glenn St., Atlanta, Ga.

which was enjoyed by representatives from all departments of the mill, office and store. Superintendent C. P. Thompson acted as toastmaster, punctuating pertinent remarks concerning mill work with keen wit.

Rev. J. G. Black, of the First Baptist church, delivered a masterful address on "Finding a Way," which was thoroughly enjoyed.

Rev. Lester Rumble, of the First Methodist church, made an interesting talk on "Co-operation Among Men," bringing out helpful points in his inimitable style.

C. E. Bell, secretary of the Y. M. C. A., made a very impressive talk on "Welfare," which was likewise interesting and enjoyable.

C. B. Caperton, assistant treasurer, addressed the gathering on "Efficiency," covering the subject from every angle. This speech will certainly be productive of the desired results.

All of the men present evinced great appreciation for the talks delivered, and manifested a keen desire to co-ordinate with the officials in every manner possible to make the Trion Mill a leader among mills.

Hyatt Roller Bearing Co. Opens Southern Office.

The Hyatt Roller Bearing Company, Newark, N. J., one of the leading manufacturers of transmission equipment in the country, has opened Southern offices at Charlotte. This office, which is at 1108 Johnston building, is in charge of J. M. Hancock. Mr. Hancock has been connected with the company for many years and is thoroughly acquainted with the business.

Southern mills are large users of Hyatt roller bearings and the growing use of Hyatt equipment in this field lead to the establishment of the Southern office. It will serve all Southern territory east of the Mississippi.

WE BUY FOR SPOT CASH

Surplus and Odd Lots of Chemicals

Oils, Dyes, intermediates, solvents, gums, glues, waxes, and any item of a chemical nature.

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FOR ALL TEXTILE FABRICS

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must be one that for simplicity with great capacity and economy in maintenance produces uniformly such conditions that may be determined for the different requirements of the work. In the American Moistening Company's method of humidifying, all such requirements are GUARANTEED

Our COMINS SECTIONAL HUMIDIFIERS

Our FAN TYPE and HIGH DUTY HUMIDIFIERS

Our VENTILATING Type of Humidifier (Taking fresh air into the room from outside)

Our ATOMIZERS or COMPRESSED AIR SYSTEM

Our COMPRESSED AIR CLEANING SYSTEM

Our SIMPLEX HUMIDIFIER—One Pipe—No Pressure Pipe

Our CONDITIONING ROOM EQUIPMENT

Our AUTOMATIC HUMIDITY CONTROL (Can be applied to systems already installed)

Our AUTOMATIC TEMPERATURE CONTROL

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AMERICAN MOISTENING COMPANY

BOSTON, MASS.

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REEDS

Although our new Southern Plant has been in operation only four months, we have been compelled to operate both day and night to take care of orders from Southern mills for our high quality reeds.

Over 80 per cent of this day and night production has been on high counts, 48 to 67 dents per inch.

This alone will tell you there is here a reed plant at your very doors ready to give you the highest quality reed service to be had, excepting none.

In the personnel of our Staff are Expert Textile men with years of experience in mill problems. This expert service is at your command merely for the asking.

"Duplex" Loom
Harness—complete
Frames and
Heddles fully
assembled
Salvage Harness
Leno Doups
Harness Frames
Jacquard Heddles

STEEL HEDDLE MANUFACTURING CO.
GREENVILLE PHILADELPHIA PROVIDENCE

SOUTHERN PLANT Greenville, S. C.
HAMPTON SMITH Southern Manager

Drop Wires
Nickel-Plated
Copper-Plated
Plain Finish
Improved
Loom Reeds
Leno Reeds
Lase Reeds
Combs

Dam at Rhodhiss Almost Completed

Lenoir, N. C.—Ten more days working weather and the flow of the Catawba river will be shut off at Rhodhiss as the last gap in the dam of the Western North Carolina Power Company's new project is closed up. A few more days with five steam shovels will complete the excavation for the tail race. When this is done the 40-foot gap left in the dam for the flow of the stream will be closed up. Material for filling this gap is already at hand and by the last of the month the entire project will be completed, with the exception of the installation of some

of the machinery, according to Mr. Perkins, of the firm of Dennis-Rhinehart Construction Company, contractors.

Installation of the three 1,500 horsepower units is still under way. Unit No. 1 is just about completed and ready for the water to be turned through its big turbine. The second unit is nearing completion and probably will be ready by the time water in the dam raises to the intake. It will be several weeks before the third unit is completed. The closing up of the dam will not be held up to await the completion of all of these three units, however. When the water level reaches a height where it will operate one of the units it will be turned through

this turbine and the gates leading to the turbines of the other units will be kept closed until they are completed.

The three power units which will develop a total of 45,000 horsepower are being installed by the Westinghouse Electric Company. This company has had a big crew of trained men here for a number of months putting this machinery in.

That the project is nearing completion may be easily noticed by anyone who has visited the plant during the past few months. Until a few days ago day and night crews were kept busy on the two quarries located a half a mile above the dam. Other crews were working on sand piles located within the pond area.

time when it will be covered with Work on these has been abandoned now and all equipment moved out. All the railroad tracks and spurs in this pond area have been taken up and moved below the dam where they have been stored along the Carolina & Northwestern Railroad tracks. Prior to moving the tracks and equipment out of the pond area stone was hauled from the quarries and sand from the river bed sufficient to complete the last gap in the dam was hauled to a point near the mixing plant below the dam. A few days ago a hundred or more men were working in the pond area. Now everything has been moved out and the place cleaned up and made ready for the

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Catalog on Request

AUTOMATIC SHUTTLES

Try Our New Automatic Shuttles for either cotton or woolen weaving. It is meeting every requirement with entire satisfaction.

water, which will be within the next few weeks.

Reports have been current for several weeks that another big power plant is to be built a few miles below Rhodhiss by the Western Carolina Power Company, or the Southern Power Company, and that Dennis-Rinehart Construction Company is to move their equipment from here to the new location and begin work immediately on the new plant. When asked about this Mr. Perkins, member of the contracting firm, who has been in charge of the work on the Rhodhiss project, said that his company did not have any contract for a new plant. He said that he had heard of the reports, but knew nothing of the plans of either of the power companies.

It is believed here that this proposed plant will be built in a very short time. The fact that the state highway commission in relocating the highway between Lenoir and Hickory has changed the route of the road several miles where it crosses the Catawba river in order to place it above water level of such a project adds belief to the reports. In making this change the highway commission abandons a concrete bridge built in 1917 at a cost of about \$100,000. It is also understood here that the Southern Power Company is to bear the cost of the new bridge which is to be located several miles above the present bridge.

Knitters Cutting Shipping Costs

(Continued from Page 18)

retailer prefers to have his stock come in boxes that are easy to handle, take up less room, and do not necessitate the opening of unneeded merchandise. And for the mill selling to jobbers, the great saving in container costs resulting from the use of fibre boxes, the gain of 25 to 50 per cent in storage space, the saving of 30 per cent in freight costs, and the saving of 75 to 85 per cent of repack costs by shipping in reduced units is well worthy the consideration of every member of our industry.—Letter of Associated Knit Underwear Manufacturers.

What World's Cotton Goods Markets Are Doing

Germany.

Germany's foreign trade balance in textiles showed some improvement during the third quarter of 1924. The imports of cotton remained about the same as in earlier months, but imports of cotton yarn and fabrics declined noticeably, while the export of cotton fabrics increased. The attention of German textile circles is held at the moment by the commercial treaty negotiations now under way with France. The textile provisions of the prospective treaty are apparently among the causes of continued difficulty to the negotiators and anxiety to German textile manufacturers. This situation arises from the proposal

of the French to continue for a further period the duty-free contingent shipments of textile goods, supposedly the products of the Alsatian mills.

It has been the contention of the Germans for the past five years, well supported by statistical evidence, that the contingents imposed upon them by the Treaty of Versailles exceed by a great amount the productive capacity of the spinning and weaving mills of Alsace-Lorraine. These mills, having been a part of the German industry before the war, the local textile associations knew, in a very detailed way, the productive capacity of each of them. But it is not the amount of the contingent, so much as the principle, to which the Germans object. The industry of Germany proper has been embarrassed for over a year by the sale of Alsatian goods at prices cheaper than German goods because of the declining franc value. Hence, the prospect of an indefinite prolongation of this situation after January 10, 1925, when Germany regained its freedom of action in tariff matters, is highly unpleasant.

The French viewpoint is that a continuation of free textile imports from Alsatian mills is justified by the fact that during the period of German inflation, these mills were unable to sell to the full extent of the contingents allowed them by the treaty, and hence, should be permitted to do so now as a compensation. It is said that England looks with considerable disfavor on the continuation of free import contin-

gents from Alsatian mills, inasmuch as they interfere seriously with the normal course of German-English textile trade.—Commercial Attache Fayette W. Allport, Berlin.

Norway.

The first half of 1924 was a very unfavorable period for the Norwegian textile industry, owing to the long labor conflict, and the high raw material prices which, according to statements, hardly left a margin of profit. Owing to the depression in the cotton goods market large quantities of cotton goods were thrown on the Norwegian market at "dumping" prices, thus adding to the difficulties of the domestic manufacturers. Better conditions, however, obtained during the last six months of the year. Although the lower raw cotton prices were almost balanced by wage increases in the industry, the situation improved greatly owing to increased demand for cotton goods. At the present time the industry employs about 12,000 hands, and the annual production is estimated at a value of 150,000,000 crowns, or about 50 per cent of the domestic demand.—Adolph E. Fenselau, Office of Commercial Attache, Copenhagen, Denmark.

Turkey.

During November, some sales of American grey sheetings from old stocks are reported to have been made to the Turkish Government for the army. The government also bought considerable quantities of Japanese brands.—Consul General G. Bie Ravndal, Constantinople, December 20.

J. S. Roberts, President

ESTABLISHED 1919

C. M. Young, Treasurer

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GEORGIA WEBBING AND TAPE COMPANY,

COLUMBUS, GEORGIA

Sold by Supply Houses and Direct

Practical Discussions

(Continued from Page 23)

2. From inside of the roving boxes.
3. From over-filled top clearers.
4. From dirty top rolls.
5. From dirty bottom rolls.
6. From dirty under clearers.
7. From brushing down.
8. From cleaning thread boards with the hand pushed brush.
9. From cleaning roller beams by blowing through a bobbin.
10. From blowing down creels.
11. From bad piecings (bunchy).
12. Hard twisted roving.
13. Twisting roving too hard when piecing ends.
14. Lack of oil on top roll.
15. Flying broken ends.
16. Wind blowing through a window.
17. Not picking black and colored waste off of the roving.
18. Dirty roving cans.
19. Dirty ring rails on spinning frames.
20. Dirty flyers on roving frames.
21. Dirty top roll weights.
22. Making too much flyings when sweeping.
23. Dirty separators.
24. Dirty spindle bands.
25. Loosened dirt flying off from belts.
26. Loosened dirt flying off from pulleys.
27. Loosened dirt dropping from ceiling and over-pinnings.
28. Waste released from clothing of attendants.

29. Bad piecings at drawing frames and combers.

30. Help running up and down the alleys.

31. Dirty roller beams.

32. Starting idle machines without first brushing off dirt.

33. Using rovings of long standing without cleaning off dirt.

34.—Dirt flying off spinning frame cylinders.

Enough said! The remedy is plainly in sight! Roll up your sleeves and play ball—pitch into the job and work! Enlist everybody and interest them to help you win out. Many mills have cleaned out this pest and you can do it, too. If I have been of service, you are welcome to my advice. "Rover."

Answer to Young Overseer.

Editor:

In answer to "Young Overseer" in the January 22 issue of the Southern Textile Bulletin, concerning the changing of twist in yarn without changing the twist gear, allow me to tender the following explanation:

Twist in yarn depends upon the front roll speed, spindle speed, and the diameter of the bobbin. When the twist gear is changed, the speed of the front roll alone is changed, an increase in speed cutting down the twist per inch in inverse ratio, and a decrease in speed producing the opposite effect. Using the same twist gear, but changing the cylinder and jack or "combination" gears will give the same result. In that

case the following rule may be used:

First twist per inch \times cyl. gear in use \times new jack gear \div Jack gear in use \times new cyl. gear equals new twist per inch.

The diameter of the bobbin, both full and empty, controls the twist to a slight extent. The smaller the bobbin, the greater the number of revolutions are required to wind a given length of yarn. More revolutions of the bobbin are necessary for winding, consequently resulting in less twist. On the other hand, a large bobbin winds its yarn with fewer revolutions, and more turns go into twist. The difference in twist in yarn spun on an empty bobbin and that spun on a full bobbin, while scarcely discernable, can nevertheless be calculated.

Tension of tapes or bands will have its effect in the amount of twist, slack bands giving less twist and tight bands producing more twist.

A larger front roll will give less twist, as will a larger whirl. In the case of band drives, a band of greater diameter will probably slow down the spindle slightly, as the point of contact on the whirl will be farther from the center, giving the same result as if a larger whirl were used—less twist.

M. E. C.

Dyeing of Cotton Stockings

FOR the dyeing of cotton stockings, wooden vats are generally employed similar to those used in hank

dyeing. It is desirable to have these provided with double perforated false bottoms, in order to facilitate uniform heating and easy handling. It is also advisable to provide under the false bottoms a double set of heating coils, one as an open steam pipe by means of which the liquid can be quickly heated or brought to the boil, and the other as a closed steam pipe, which is used during the dyeing to maintain the temperature by indirect steam and not to prolong the process by dilution with condensed water. During the dyeing the stockings are kept in motion by means of sticks. In isolated cases copper or iron vessels are used, the latter especially for such colors as immediate black C. A writer in the Colour Trade Journal says lately, however, stockings have been dyed in mechanical dyeing machines, in which they are laid as flat as possible in order to avoid damage. For the dyeing it is important that the packing should be as firm and uniform as possible so that during the dyeing no channels can be formed through which the dye liquor can flow more easily than through the goods themselves.

Lime-free Water Essential.

In dyeing in mechanical apparatus the chief point to notice is that the water used must be as pure and free from lime as possible. Although in many cases water lime can be used, the results are never as certain as with soft water. To obtain soft water depends too much upon local conditions for any rules to be drawn

Spinning Frame Motors



7½ H. P. Type AR Direct Connected Spinning Frame Drives, Dover Mills, Shelby, N. C.

The illustration shows a group of Allis-Chalmers type "AR" motors driving spinning frames through a silent chain drive. These motors are especially adapted for this class of service, being provided with tapered shaft for the ready mounting and dismounting of pinion.

They are of the all-steel frame construction, making them very rugged and substantial.

Send for new bulletin No. 143 "Power Equipment for Textile Mills."



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up here. It may be remarked that in many works a collection of the condensation water from the steam supply will cover the comparatively small amount of water needed for the mechanical dyeing apparatus. If there is not sufficient condensation water or other soft water available, it cannot be too strongly recommended to install a water-softening apparatus such as can be obtained from many machine works.

In dyeing in mechanical apparatus care must be taken to use only pure materials—that is, crystallized products. For the prepare a stock solution. Dissolve about double the quantity of sodium sulphide required for two days' use in a little hot water, allow to stand overnight and draw off the clear solution from the deposit at the bottom. In order to prepare the stockings for dyeing they should be boiled in a solution of 3 per cent to 5 per cent soda ash or 2 per cent to 3 per cent caustic soda. For light shades the stockings may be boiled a second time before dyeing. If the stockings are to be dyed black or are of poor quality and are intended for dark shades the boiling may be omitted. For light or bright shades the material must be well sodium sulphur solution, which is used to dissolve the sulphur colors, especially for the production of light shades, it is best to bleach; the stockings should in this case, after being boiled with alkali, be treated for some hours with sodium hypochlorite. In bleaching it is best to use vats of wood, lead or nickel. Here again it is necessary that water free from lime

be used in order to get a satisfactory white and a soft and untendered fibre.

Efficient Vat for Bleaching Stockings.

A useful plan for the preparation of cotton stockings or other materials consists of a square vat, which represents the real bleaching vat and is provided with a lathed bottom and a screw-down lid. In this the material to be bleached should be packed as evenly as possible. This vat stands in a larger one and takes up about three-quarters of its space in height and breadth. Under the bottom of the larger tank is placed a pump and so connected that the liquor in it may be pumped into the bleaching vat proper, or the liquor drawn from the latter and pumped again to the tank and so circulated through the material under treatment. If this apparatus is provided with heating coils it can be used for boiling, bleaching and souring and all processes up to dyeing. The method of working generally employed is as follows: After the goods have been packed into the vat, as already described, and covered with the lid, the boiling of the stockings with alkali is proceeded with. For this purpose the solution of soda ash or caustic soda is run into the outer vat and heated to boiling. It is then circulated by means of the pump through the stockings in the inner vat, treating them in this manner for four or five hours. This boiling liquor is then run off and the goods rinsed once or twice. The bleaching solu-

tion is then run into the outer vat and pumped into the inner one, where the goods are treated for five or six hours; the liquor is then pumped back into the reservoir, the stockings are again well rinsed and soured in the same apparatus in a very weak solution of hydrochloric acid, again well rinsed and soaped in a boiling solution. Care must be taken to thoroughly remove the chlorine and the acid after souring; for this purpose a sodium bisulphite or hyposulphite bath is often given, being followed by a thorough rinsing.

In dyeing stockings the same dyestuffs can be employed as are used for cotton hank dyeing. As the shades must withstand the action of washing, perspiration, street mud, and to a certain extent light, such dyestuffs as possess these properties should only be chosen. Mercerized goods are dyed in the same manner as ordinary ones, only as the former take up the dyestuff much quicker than unmercerized material the dyeing process should be retarded. For light or medium shades in dyeing with direct cotton colors, the addition of salt should be omitted. In the case of dark or black shades, a slight addition of salt is advisable.

Methods of Testing Cotton in Standardization Plans

For some time a formal proposal has been before the American En-

gineering Standards Committee that work on the general subject of methods of testing textiles should be organized under its auspices and procedure. The proposal arose in connection with the approval by the American Engineering Standards Committee of the American Society for Testing Material specifications for its Methods of Testing Cotton Fabrics as a tentative American standard.

After extensive discussion of the matter by a special committee containing representatives of the principal American technical organizations interested, and under the chairmanship of Lieut. Commander G. W. Nelson, of the U. S. Navy, it was thought best to limit the work for the present to tolerances and test methods for cotton yarns and fabrics, it being felt desirable that further pioneer work should be done in the woolen and silk industries by individual groups before undertaking a thoroughgoing program of standardization of methods.

It was recommended that the scope of the work, which it was agreed should go forward under the sponsorship of the American Society for Testing Materials, should be:

Tolerances and test methods for cotton yarns and fabrics, such as those used in the rubber and electrical industries, numbered ducks, army and tent ducks, fabric belting, sheeting and other yarns and fabrics which may be subject to such tolerances and methods of testing.

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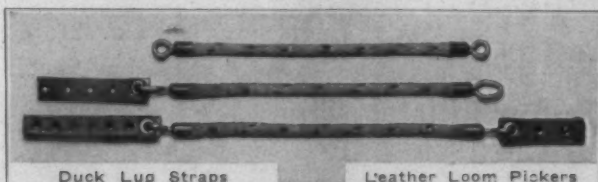
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Hollinsworth, J. D. —	—	United Chemical Products Co. —	51
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WRITE FOR SAMPLES

The Science of Dyeing

(Continued from Page 7)

obey certain definite laws. An invariable one is that of multiple proportion. All substances combine with one another in proportion to their molecular weights. Furthermore, heat is either given off or absorbed. I have not been able to find a citation to the effect that any experimenter has succeeded definitely to establish either of these points. Knecht prepared lanuginic acid by dissolving wool in barium hydrate solution, and precipitating the barium with carbon dioxide. The lanuginic acid was then precipitated from solution with lead acetate. The lead was precipitated with hydrogen sulphide and filtered off. The solution was then evaporated. The lanuginic acid so obtained gives bright precipitates with solutions of either acid or basic dyes.

Wool and silk absorb and hold dyes tenaciously and resist boiling acids and alkalis. They absorb dye bases from neutral baths, leaving the whole of the acid from the dye in the bath in the form of the ammonium salt. For these reasons Knecht, who is the main exponent of the chemical theory, deduces that definite chemical compounds are formed between color bases or acids with some break-down product of wool or silk of the nature of lanuginic or sericinic acid.

As a corollary to the chemical theory is the selective solution theory of Witt (1890), which is very interesting, though not adequate to cover all cases of dyeing. Witt considers dyeing as a selective solid solution phenomenon similar to the fusion of metals to form an alloy. He considers the fiber and dye as mutual solvents for one another.

Dyeing depends on both dye and fiber, and the absence of dyeing action frequently cannot be explained chemically but can by choice of solvent. When dyeing takes place, the fiber exhibits a better solvent action on the dye than does the water of the bath, and absorbs or dissolves the dye in the same manner that ether extracts iodine out of a water solution. Ether will also absorb resorcinol out of a water solution, but benzol will not. Yet benzol dissolves resorcinol ordinarily.

Keratin and fibroin, the basic substances of wool and silk, are good solvents for dyes; cellulose is a poor solvent.

Witt further proves his theory by the fact that the color of a dye when ordinarily applied to a fiber is that of its water solution and not of its physical substance. Fluorescein is a brownish powder, but it yields fluorescent shades when dyed, characteristic of its water solution. A mechanical dilution of the dye powder with chalk does not yield a fluorescent yellow. Similarly Patent Blue appears as a purple powder and Fuchsine as a green powder, but both yield dyeings matching the shade of their solution in water.

The Colloidal Theory.

Before delving into this, the most complex of the dyeing theories, I consider it well to review rapidly the elements of colloidal chemistry.

The word "colloid" is derived from the Greek meaning glue-like or pertaining to glue. The term is applied quite generally now to substances resembling soaked carpenters' glue in physical properties. When a crystalloid (which is here considered as the antithesis of a colloid) dissolves in water it does so in the same manner as gases diffuse in one another. The crystalloid breaks down from its surface inward until the whole is dissolved. A colloid swells up as a whole, assuming larger and larger dimensions until it has absorbed within itself the water with which it is in contact. Then at a certain optimum temperature it becomes fluid, yielding a colloidal solution.

A typical colloid is silicic acid which is formed as a voluminous precipitate when hydrochloric acid is added to a concentrated solution of sodium silicate. This gel can be washed free from sodium chloride, the other component of the reaction. By evaporation with heat the water can be driven off, but it requires strong ignition to remove the last traces of moisture. The final substance is silicic acid. It melts with the oxy hydrogen flame and on cooling congeals to transparent quartz glass. When cooled very slowly it crystallizes into small crystals.

It follows that we have for the one substance, without any chemical change, three forms, colloidal, glassy and crystalline state.

The salt can be removed from silicic acid precipitated with hydrochloric acid out of a sodium silicate solution by dialysis. The mixture is placed in a container with a parchment base and the whole dipped in distilled water. The silicic acid will remain in the container, but the salt will pass through the membrane into the water.

This demonstrates one of the fundamental characteristics of colloids, that they will not dialyze, that is, pass through the usual membrane by osmosis.

Colloids do not obey the usual laws of solution or equilibrium such as pertain to metallic salts. The latter yield stable solution; providing the concentration of solubility has not been exceeded. Colloidal solutions are apt to precipitate flocculent gels on standing; boiling frequently accelerates this decomposition.

Colloidal solutions are sensitive toward changes in the content of electrolyte (dissociable crystalloid), but are generally considered as requiring the presence of some of this substance for stability.

Colloids move in the field of an electric current. A current of 110 volts potential passed through a colloidal solution shows practically no passage of current but the colloid particles aggregate at one pole. Metallic colloids usually migrate to the positive pole, or anode. Therefore, they are considered as electro negatively charged since opposite polarities attract. Iron and aluminum hydroxides migrate to the negative pole and are therefore termed electro positive.

This electrical migration is influenced by the presence of small amounts of electrolyte found even

(Continued on Page 38)

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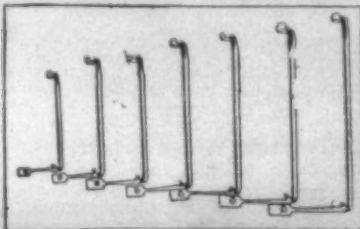
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Steady Gingham Inquiries for Nearby Deliveries

STEADY inquiry for gingham is reported in many centers of the cotton goods market. Reference to this development has been made several times during the past few months, as this is considered a rather interesting phase. The change in gingham has been gradual, a transition from state of coma, to one where there is fair daily interest, says the Daily News Record.

In most gingham houses, the statements are that hardly a day passes without some request to hurry shipments on goods of this character, which are on order. In addition, there are steady requests, for varying quantities for goods for nearby and quick deliveries.

This has been going on so steadily for the past few months that the large accumulations which a number of mills had had in stock, have been pretty well absorbed, and it has not been an easy matter in numerous instances for buyers to pick up the stock goods, which they have been seeking. The cutters-up have been the chief buyers of gingham, but there also has been better interest on the part of all the mail order houses as well as from the jobbers. The mail order people did very well on their January "flyers" and kept on coming into the market looking for additional lots of goods from day to day.

There is nothing sensational about all this, except that the change is so considerable that it has undoubtedly had an effect of helping in maintaining better sentiment. We can all remember, not so long ago, when jobbers' stocks of gingham were very large, and were not moving, the jobber had difficulty in being optimistic regarding anything at all in the business. The weight of his gingham handicapped, whenever he tried to move. Money so tied up in this merchandise, hindered buying for other departments, and invariably if one spoke about the cotton goods business the jobber thought first of the gingham which he had in stock, and consequently failed to enthuse.

It is not so long ago, when at meetings of wholesalers, the only topic that seemed to come up was gingham—they all said they had so many gingham. The question was once asked at one of these meetings "Don't you fellows handle anything else but gingham?"

"Yes, but we have so many gingham."

However, that state of affairs has changed—and buyers now talk differently entirely on this subject. There are a good many buyers in this country today who believe that gingham are coming back, and they have made such statements in this market.

Regarding prices it is evident that mills are entitled to more money than they have been getting, particularly on the very low-priced goods. In the past few days, a few selling houses report they have had inquiry for cheap gingham for April delivery, to be purchased at the current low market. Their mills, however, were not interested in selling goods to be made at the same price as that

at which they disposed of their stocks. This makes it rather clear that mills are going to insist upon an advance, when offering goods ahead on contract delivery.

Gingham Situation Difficult.

The situation is delicate, in that there is a demand for gingham, and the mills want to encourage this and to avoid doing anything that might choke off this business. Yet, on the other hand, they have the proposition where it is absolutely necessary that they get more money for these goods. An advance in gingham when the next price is named goes almost without saying. On the other hand, it is likely that the mills will put through only a nominal advance and not ask a price which costs would warrant quoting.

For years it has been true that when gingham were wanted, percales also sold. The large printers have had a good business at the old prices. It has been yet too early to expect to find much interest at the advanced levels. Jobbers and others had bought their immediate requirements before the prices were changed and probably will consume these before going ahead to any extent.

One hears considerable comment from time to time among buyers regarding the attractive patterns which are being used on percales and which really place these goods in the better class of novelty printed dress goods styles. Much has been said of what the gingham manufacturers have done in this direction, and it is safe to add that the large printers have not been second in the progress which they have made. These printed dress goods styles for that term is really more appropriate today than is the word percales, include expensive work, multicolors and patterns, after the latest fashions. Furthermore, the large prints are constantly getting out new work, offering the buyers unusual opportunities for sweetening their stocks at all times. This manner of operating has undoubtedly added heavily to the expenses of the large printers, particularly when it is realized that the price has not taken all of this into consideration, for some time.

Flannels in Fair Demand.

There has been fair business in flannels during the past week, a few houses say they have sold large yardage, whereas others say that this trade is coming along steadily in a conservative way, but satisfactory, conditions considered.

There has been steady business in various printed fabrics of the better grades, such as printed pongees, printed sateens, printed broadcloths and other goods in this category. The houses have found this coming in steadily for small quantities, with some ranging up a little in yardage. Other houses state that the best part of their business had been placed a few weeks ago, before the buyers had gone home.

There is frequent reference in the market to the large losses which several of the important mill organizations have sustained during the past year. There has been much talk along this line for many months, prices and knowledge regarding replacement has made it obvious that, in certain instances,

nothing else could happen. The publication of financial statements by a number of these mills has probably done more than anything else to impress upon buyers that something would have to happen, that there must be a change some way, in price or something else, for mills could not very well keep on digging into surpluses as some have had to do recently.

Underwear Market Shows Strength

AS the market for heavy winter weights of knit underwear tapers to a close after one of the most successful seasons in years, buyers are devoting serious attention to the need for continuing their purchasing of spring merchandise before rumored price advances become realities.

Within the past month a few manufacturers have made slight increases in their prices for spring goods, but as these revisions have served only to bring their quotations up to the general market level but not above it, they are not generally accepted as true indications that current general quotations are to move upward. They do signify, however, that the market is in a sound position and that there is no outlook for any lower prices.

Those prognosticators who cite evidences of a possible upward trend look to the primary markets for their proofs rather than to the market for knit underwear itself. After almost two years of stability, artificial silk prices are stiffening, and aside from the fact that artificial silk is an important factor in the knit underwear industry it is pointed out that a market ordinarily so steady as artificial silk does not fluctuate except under the influence of sympathy with general conditions.

Cotton yarn prices are firmer than they have been for some time, and the strength of the wool yarn markets continues. With no outlook for any lower yarn prices in any division of the industry, and with knit underwear prices now quoted under the basis of replacement, men who have seldom erred in their predictions in the past now declare that before the season advances much further some price readjustments to a slightly higher plane may be expected.

Commenting upon the past season in the heavyweight market, manufacturers say that their sales this fall and winter were substantially larger than in any corresponding season for several years. Most of the buying was done during the past six to eight weeks. Now that the buying season is about ended, interest in heavy goods shows signs of waning, but although it is already time for the market to become quiet there is still a noticeable volume of heavyweight replacement business available.

So far as it is apparent and distinguishable at present, the tendency of buyers of men's spring knit underwear is toward the knit-athletic type of garment. At this early period buying is quite well distrib-

uted over the entire range, but manufacturers agree that there is a good indication that knit-athletic garments will be the dominant type bought by the general public during the coming spring and summer.

Buying of spring merchandise at the start of the refill period now is showing a little more strength than is customary at this stage of the season, but this is explained as an activity in anticipation of possible price advances. Initial business for spring was about normal, but now that buyers see reason to look for higher prices they are naturally anxious to save as much as possible.

A return of confidence in the general commercial and industrial situation since the recent presidential election is also responsible for the strong condition of the market. Buyers who were formerly committed irrevocably to the hand-to-mouth policy because of the uncertainty of conditions are still following the same procedure, but with modifications. There is, happily, no inclination anywhere along the line to speculate on the future, but buyers are willing to commit themselves for the purchase of a more substantial portion of their known requirements. And this is true alike of all divisions of the industry. Manufacturers are more willing to carry moderate stocks of yarn; wholesalers are again functioning in their natural capacity as the source to which the retailer may look for quick delivery from stock; and the retailers themselves are beginning to cover the bare places on their shelves with the merchandise the public demands.

Since the wholesalers' convention at the Waldorf Astoria Hotel in New York this month, buyers have been circulating freely around the market, displaying a readiness to buy when a survey of market opinions gleaned from conversations with other buyers and with selling agents evidenced a sound market basis. Considered as a whole, buyers and sellers alike declare that they have reason to be satisfied with the present situation and with the spring outlook.—Letter of Associated Knit Underwear Manufacturers of America.

Seek to Determine Pay Average for Knitters.

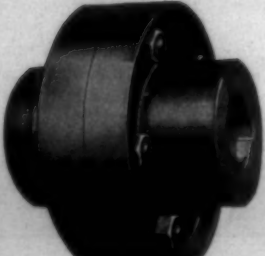
Utica, N. Y.—A questionnaire seeking to determine average weekly earnings of beginners and of experienced workers in knitting mills in all sections of the country has just been sent out to members of the Associated Knit Underwear Manufacturers of America, according to an announcement by Roy A. Cheney, secretary of the organization. When secured the data will be compiled for the information of manufacturers so that they may compare their labor costs with similar expenses met by other mills in other sections of the country. The questionnaire asks for specific information regarding weekly average earnings of latch-needle knitters, sewing machine operators on flatlock machines, all sewing machine operations combined, and general table workers.

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Science of Dyeing

(Continued from Page 35)

in pure solutions. A small increase of hydrogen ion in water electrifies the sol positively so that it migrates to the negative pole; vice versa a minute increase in the hydroxyl ions electrifies it negatively and the particles migrate to the positive pole.

These facts pertaining to colloids must be understood to appreciate the significance of the behavior of certain dyes which are colloids, toward the textile fibers, all of which are colloids. Furthermore, the colloidal theory of dyeing premises electric charges on the part of dye and fiber colloids, and uses these to explain coagulation of the one on and in the other which is the ultimate end in dyeing.

Kraft's theory assumes that a colloid solution or system contains the solute in molecular form: the molecules are large in mass and volume and tend to form systems rotating round one another. When the gel coagulates these spheroids become rigid.

In dyeing Kraft supposes that absorption takes place but that the solid solute combination is a loose one, possibly an incomplete chemical compound at times. It does not, however, obey the law of multiple proportion.

Benzopurpurine, Chrysophenine and Congo are generally considered as typical colloids. Yet knecht and other experimenters deny this because these dyes are supposed to yield solutions which are electrically conductive and because they exert osmotic pressure. The matter of osmosis of these dyes is surrounded with considerable doubt since the osmotic pressure, as previously explained, is very dependent on the presence of small amounts of electrolyte.

Experiments who used absolutely

pure Congo could not develop any osmotic pressure and classed this dye as well as other direct colors as colloids because of this fact, as well as because of their low diffusibility and their optical visibility in the ultra microscope.

Zacharias in 1900 advanced the theory that dyeing consists of colloid inter diffusion plus adhesion due to precipitation. He considered the cohesion between dye and fiber as of an electrical nature comparable to an ion combination. Essentially dyeing consists of coagulation of colloids in or on another colloid due to opposite electrical charges in such form as to be insoluble.

Dreaper also supported this theory since dyeing is always carried out wet so that the fiber may be sufficiently hydrated to act as a hydrosol of the gelatine type.

He described dyeing as occurring in six states or phases:

1. A solution state of the dye within certain limits of aggregation.
2. A fiber state corresponding to this aggregation and of permeable nature.
3. The effective localization of the dye within the fiber area due to surface concentration.
4. The localization of salts, acids, etc., within the fiber area.
5. Indirect entrance of dye aggregates by molecular migration with subsequent reformation of aggregates within the fiber area.
6. A desolution due to secondary attraction between fiber substance and dye.

Dyeing by the colloidal theory depends on the diffusion of two colloids of opposite potential and their coagulation because of electrical difference. Conversely, colloids of similar potential do not precipitate one another. Such colloids are termed "protective." They may be combined in order to accentuate their particular electrical charge, and therefore to render less potent

the charge of an electrically opposite colloid or other substance. A striking instance of this is the rendering of Benzopurpurine relatively fast to mineral acids by the addition of gelatine to its solution. When dyed on wool, a similar behavior is noted.

Electrical Theory.

Four factors are considered in this theory:

1. Molecular movement, by which dye molecules or particles transport themselves onto the fibres or into its pores. In true solution this process is called diffusion, and must be taken into account in all theories of dyeing. In colloidal solutions the same thing occurs, but to less extent.

2. Electrical charge on fiber and dye. The potential of this charge has been measured under several conditions as regards nature and concentration of added electrolytes.

3. Size of pores in fibers. These pores occur in natural fibers and have been seen by the ultra-microscope and indirectly proved by the ability of colloidal solution to penetrate to considerable extent into fibers. Heating increases these pores. The increased dyeing ability of mercerized cotton has been shown to be due to changes in colloidal state of fiber as well as its electrical charge. The effect of drying mercerized cotton is to reduce its dyeing capacity; this has been explained as being due to reversion of the changes produced by mercerization.

4. Size of dye particles. It is obvious that the extent to which dye particles can penetrate into porous substances must depend on their size. The rapidity of coagulation is also dependent on the size of the particles.

By inclusion of these four factors the electrical theory appears to ex-

plain most cases of dyeing; its value, however, lies most in cases of direct colors where chemical theories have failed.

If the dye be colloid, then coagulation results from neutralization of charge; if not colloidal, then it is ionized in solution and deposited by contact electrification charges acting on the ions.

The maximum negative charge attained by wool, silk and cotton is at 40 degrees C. Wool absorbs basic colors best at 40 degrees C.

Mention may be made of Pelet's theory of dyeing by adsorption, plus dissociation. The water of the dye bath is considered as entering into the reaction. It dissociates in the fiber into H and OH ions, which, being more mobile than the large organic ions of the dye, precede them into the fiber and deposit themselves as a film, giving it thus their charge. The dye ion, having an opposite charge, is fixed on the fiber by coagulation.

The actual existence of this "double layer" of H and OH ions on the fiber, which by selection results in the fixation of a dye accompanied by a quantitative survival of the acid in the bath, has been demonstrated not only by Pelet but by other noted experimenters.

The presentation of these theories brings this paper to a close. I reserve for a future occasion an attempt to describe step by step by physical and chemical explanations and equations the dyeing of certain typical colors.

As I stated in the beginning, the science of dyeing must content itself at present with the recording of certain phenomena which are being carried out daily according to rules derived by process of "cut and try" experiment. Even in its present incompleteness, the science is of utmost usefulness in regulating the every-day dyeing procedure.

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Getting the Truth Over

(Charlotte Observer.)

THE New York Herald-Tribune sometime ago published a statement from a supposed Eastern cotton manufacturer who stated that New England mills were not able to compete with Southern mills on account of the lower wage scale prevailing in the South. The Herald-Tribune assuming in its editorial embracing this statement that the lower wage scale was the result of the prevalence of child labor in the cotton mills of the South. The name of the alleged New England manufacturer was not given. The Herald-Tribune has been getting reaction right along from that editorial. One writer, who does give his name, William E. Winchester, of New York, treasurer of two New England cotton mills, and president of two Southern cotton mills, presents in a letter to The Herald-Tribune a splendid summing up of the situation. After explaining his lack of bias with the remark that he is "a real Yankee from the recalcitrant State of Rhode Island," he declares:

"The statement which you quote from a New England mill owner is every bit as inaccurate as your own remarks," he writes The Herald-Tribune. "True the South today does enjoy an advantage over New England in the matter of labor cost in cotton mills, but this is no more due to child labor than the solar eclipse was due to the election of President Coolidge.

"As a matter of actual fact, there is no more child labor in the South today than there is in New England. South Carolina, one of the greatest manufacturing States of the South, has compulsory education laws and mill schools second to none in the United States.

"The difference between labor costs in New England and the South is due only to natural laws and no legislation, least of all an unjustifiable interference of Federal legislation with States' rights, can effect an equalization. So long as the supply of native-born labor in the South is equal to the demand and the cost of living in that section lags behind the cost of living in New England, just so long will the South have an advantage."

The Herald-Tribune editorial was designed to help along the proposed so-called child labor amendment, and the replies of Mr. Winchester and others to that editorial have served the good purpose of further enlightening the people of the East and North of the real situation in the South. It was conclusively demonstrated during the referendum campaign in Massachusetts that there is actually more labor of young people in New England mills than in Southern mills. In both New England and the South, however, there are adequate child labor laws and no children are employed under the age of 14 years, which was the age limit fixed in the late lamented Federal Child Labor Law. All that was needed to defeat the child labor amendment was to give the people of the 48 States of the Union time to ascertain the real situation in Southern cotton mills, at which the amendment was pre-

sumably aimed, and to let them get something of an idea of the import of the proposed amendment.

The general discussion incident to the fight for and against the proposed amendment has probably been helpful to the industrial South, because we may assume that the people generally are fair minded, and also that the truth will eventually prevail. Mr. Winchester, in his statement, correctly assumes that the difference in the prevailing wages in New England and the South is due to perfectly natural causes. And Mr. Winchester evidently knows, as everyone knows who is familiar with conditions in both sections, that the workers in Southern cotton mills, with the wages they receive, are able to maintain a higher standard of living than their fellow workers in the mills of New England. The Southern workers are more industrious, more efficient, more independent, more intelligent. The result is that there is less demoralization from labor trouble and from differences between employers and employees in the textile industry in the South, and workers and mill stockholders alike profit.

Another outstanding feature in the development and success of the textile industry in the South, and particularly in North Carolina, has been the absence of the harassing, nagging, and harmful legislation which has afflicted the industry in New England during recent years. The people of the South have appreciated the cotton mills for what they have done, and are doing, for this section in an economic way. They realize that the prosperity and wealth of this section have been vastly augmented by the establishment and operation of the mills. The Legislatures of our States have appreciated these facts, and the result is that, while we do have adequate child labor laws and compulsory education laws, we do not have the multiplicity of harassing laws that have been plaguing the manufacturers of New England.

Underwear Standards Committee to Meet.

Utica, N. Y.—The standardization committee of the Associated Knit Underwear Manufacturers of America will meet in the near future to determine sizes and measurements to be accepted as standard for various types of men's and boys' knitted underwear, according to an announcement by Roy A. Cheney, secretary of the organization. Mr. Cheney reports that standard leg and sleeve measurements have now practically been completed by Charles H. Hamlin, Research Fellow representing the association in the U. S. Bureau of Standards at Washington. The figures to be considered by the committee at its meeting will affect men's and boys' 1x1 ribbed union suits, men's balbriggan, worsted and merino union suits, and men's balbriggan shirts and drawers.

Robert S. Cooper, of the Cooper Underwear Company, of Kenosha, Wis., and president of the association, is chairman of the standardization committee.

GLYCERINE	GLYCERINE	GLYCERINE	GLYCERINE
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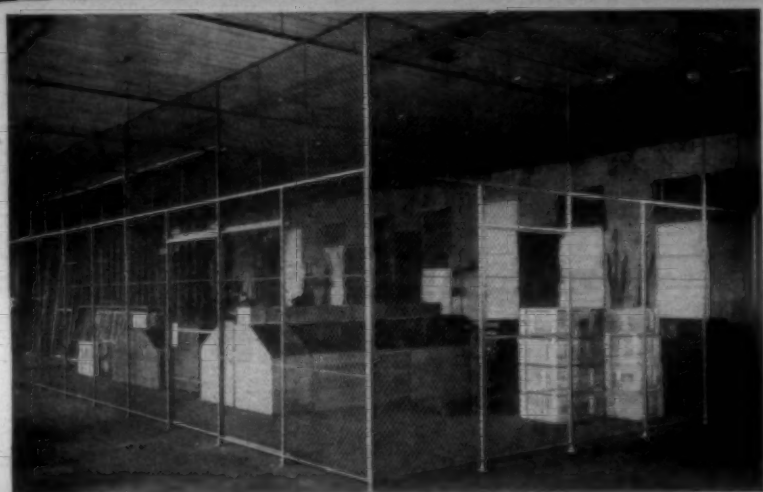
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South's Newest Fibresilk Plant

(Continued from Page 12)

cal examinations are imperative. The moral and physical welfare of the community is closely guarded. Undesirables from either viewpoint cannot procure employment. If found to be undesirable after being employed the person is to be dropped. The girls now being employed are inmates of the families of residents; and a dormitory to provide homes for 200, with a matron in charge, will soon be ready.

In the big factory will be a cafeteria run on first-class lines, in which meals will be served to employees at absolute cost. A commodious and well equipped rest room is also a feature.

A hospital with wards for each sex, a trained nurse and physician in charge is in the factory, and expert first aid ready at a minute's notice.

The air in the entire factory will be maintained at 72 to 76 Fahrenheit temperature, winter and summer. Huge fans and other appliances will change the air, wash and freshen it throughout the factory every three minutes.

The entire village has received the attention of carpenters, painters and plumbers. Six miles of paving have been built and streets improved. The company has its own fire department, in addition to that of the Nashville Industrial Corporation. It has an alert police force. Law is in the saddle at Old Hickory, and the laxity of powder plant days will be impossible under the plans in operation, and that will be rigorously enforced.

Dr. H. J. White, superintendent of the plant, is a distinguished chemist, one of that rare type of man combining wide technical knowledge with a high order of executive ability, and withal, is a man of pleasing personality. He is one of the outstanding figures in the big du Pont organization, as may be inferred from his selection for this important post. He was a member of the commission that went to Europe last summer to investigate reported useful discoveries in the process of manufacture, and these have been embodied in the plant at this place.

The following are the more important or essential materials used in the manufacture of artificial silk thread: Unbleached spruce wood pulp, caustic soda, carbon bisulphide, sulphuric acid, sodium sulphate, hydrochloric acid.

Operating Process.

The manufacture of artificial silk thread may be divided into the following operations:

First—Preparation of wood pulp. The wood pulp is received in bales of about 300 pounds each. These bales are made up of sheets of wood pulp about 16x8 inches and 3/4 inch thick. The wood pulp in this form is placed in a steeping press and treated with caustic soda solution. This treatment consists of simply immersing these sheets of wood pulp in caustic soda solution. After this treatment the wood pulp is known as alkali cellulose. This al-

kali cellulose is placed in a shredder and the sheet of wood pulp with this caustic soda is shredded into small irregular particles. After shredding the material is placed in a storage room for the purpose of aging. After aging the alkali cellulose is placed in a hexagonal rotating drum where it is treated with carbon bisulphide.

Second—Transformation of wood pulp into soluble form. The action of the carbon bisulphide upon the alkali cellulose transforms the latter into a soluble form known as cellulose xanthate. Up to this operation the wood pulp has not lost its identity, but after treatment with carbon bisulphide the wood pulp passes over into the xanthate form, in which form it is soluble in the ordinary solvents.

Third—Preparation of solution of wood pulp. In the preparation of the solution of wood pulp, the xanthate and water, which operation affects the solution of the xanthate. The resulting solution is called viscose solution.

Fourth—Regeneration of cellulose or wood pulp from the wood pulp solution. The process of regenerating the cellulose from this viscose solution is commonly known as the spinning operation. This operation consists of forcing the viscose solution through a cap containing a number of small holes. As the viscose solution leaves this cap it comes in contact with a bath containing acid and salts, which bath has the property of precipitating or regenerating the wood pulp in the form of cellulose hydrate thread.

Changed Into Thread.

Fifth—Transformation of regenerated wood pulp into form of thread and into skein form. The thread as it leaves the regenerating bath is wound into the form of a cake, from which the thread is unwound into the form of a skein of hank.

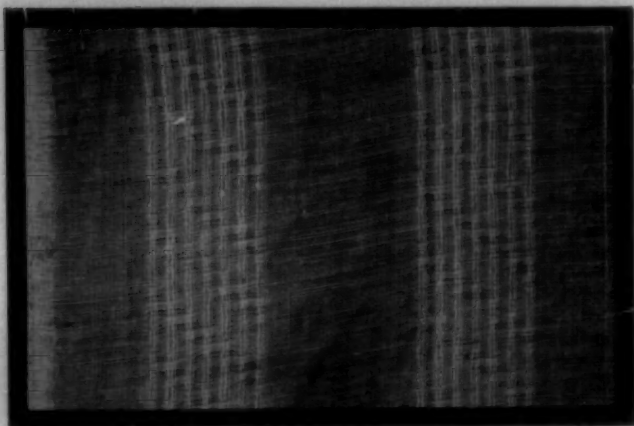
Sixth—Washing and drying the skein thread. This thread in the skein form is put through a treatment of water, and in some instances it is run through a bleaching solution and then washed. In all cases, however, the washed thread is thoroughly dried and delivered to the inspection room.

Seventh—Inspection, packing and shipping of finished thread. Inspection of the finished thread is done entirely by girls, and consists of a very careful examination of each skein of thread for defects that are detrimental to the consumer.

In this process of inspection the thread is graded into four or five classifications; each classification is kept separate and delivered to the packing presses. The object of the packing press is simply to compress the thread into a compact form, in which form it can be wrapped into a bundle, weighing approximately 10 pounds. This bundle bears a label, which gives the consumer the size of thread, classification, number of filaments, etc. The thread contained in these 10-pound bundles is packed in cases, each case containing approximately 220 pounds. It is in this form that the silk is shipped to the consumers.

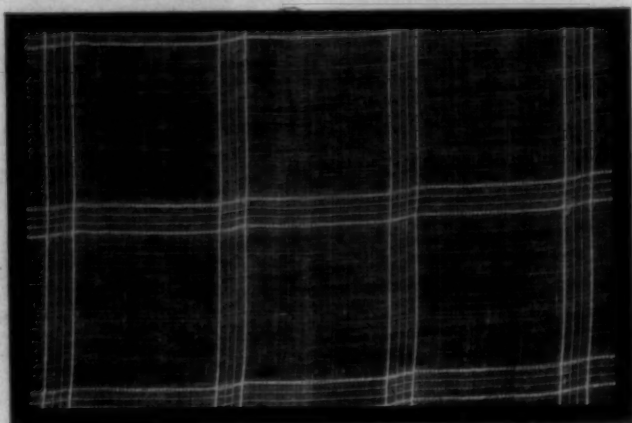
Imported Cotton Cloths

From Survey of United States Tariff Commission.



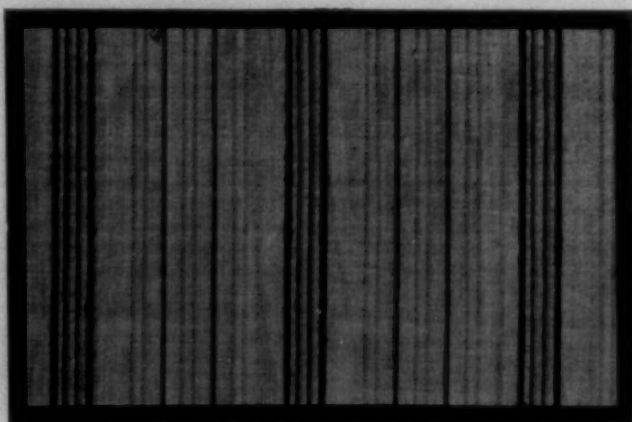
Sample No. 74.—Thread-Stripe Organdy.

Dobby woven (9-harness). Finished width, 44 inches. 90 ends and 68 picks per square inch, finished. Warp yarn, 109s and 39/2. Filling yarn, 147s. Weight, 10.91 linear yards (13.33 square yards) per pound, finished. Bleached, organdy finish.



Sample No. 75.—Transparent Organdy Check.

Woven on plain or on dobby loom (4-harness) without boxes. Finished width, 37½ inches. 97 ends and 91 picks per square inch, finished. Warp yarn, 104s and 104/3, warp cords. Filling yarn, 140s. Weight, 12.80 linear yards (13.33 square yards) per pound, finished. Bleached, organdy finish.



Sample No. 76.—Russian-Cord Shirting.

Plain woven ground with leno covered cords. Finished width, 32 inches. 101 ends and 85 picks per square inch, finished. Warp yarn, 44s dyed, 44s bleached; cord base, 40/2 dyed and 86/2 dyed; leno whip thread, 76/2 dyed. Filling yarn, 61s bleached. Weight, 5.89 linear yards (5.24 square yards) per pound, finished. White, tan, brown, and blue warp; white filling.

SUPERINTENDENTS AND OVERSEERS.

We wish to obtain a complete list of the superintendents and overseers of every cotton mill in the South. Please fill in the enclosed blank and send it to us.

1923

Name of Mill _____

Town _____

Spinning Spindles _____ Looms _____

Superintendent _____

Carder _____

Spinner _____

Weaver _____

Cloth Room _____

Dyer _____

Master Mechanic _____

Recent changes _____

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In the modern textile plant, while results are just as important, the factors which produce these results are selected only with the greatest care to insure efficiency in quality production with economy of operation.

By comparing their work with that of ordinary alkalies the superiority of the special purpose alkalies

WYANDOTTE TEXTILE SODA WYANDOTTE CONCENTRATED ASH WYANDOTTE KIER BOILING SPECIAL



is so evident that increasing numbers of textile mills are standardizing their use in the production of more desirable results from the quality of their stock.

These superior results are guaranteed with your order or the trial costs nothing.

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Textile Winding Machinery

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FIFTY years of constant, unremitting grind have served to demonstrate the enduring profit-producing quality and dependability built into

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If you care to write, we'll be glad to give you details of machines that, after nearly fifty years of service, are still operating economically.

And, upon request, a representative will gladly discuss with you your present or future dyeing problems or requirements.

Special Construction when Required

KLAUDER-WELDON DYEING MACHINE CO.

Originators, Pioneers and Leaders
BETHAYRES, PENNSYLVANIA

Cotton Piece Goods Dyeing

(Continued from Page 10)

Although the squeezing jigger reduces this oxidation to a minimum, it has one drawback which the writer believes has prevented its more general use in this country—viz., low production. Because of existing trade conditions a large production is necessary if a sulphur dyehouse is to operate profitably. In addition, the development by the dyestuff makers of improved types of sulphur colours not so susceptible to oxidation and the rapid strides made by machinery manufacturers specialising on continuous dyeing ranges have helped retard the adoption of the squeezing jigger for piece-goods dyeing.

General Precaution in Jig Dyeing.

It often happens that poor results are obtained from jig dyeing because seemingly unimportant details are not given their proper attention. Probably the most common fault found with cloth dyed on the jigs has another. When the colour for each jig has been weighed out and dissolved in an individual pail, such differences are usually laid to inaccuracies of the drug-room clerk in weighing dyestuffs. While it is true that he is sometimes at fault, more often this trouble is due to one or two things—either the volume of liquor has varied from jig to jig or the temperature has not been uniform. Both of these conditions may be due to carelessness on the part of the operator, although it is surprising to note the lack of attention paid by many dyehouse superintendents to the steam supply. Unless all exposed steam pipes in the dyehouse are protected by a suitable no-heat, conducting covering, condensation, is continually taking place. Hence, after the liquor has been "boiled up" a few times those jigs farthest removed from the steam supply line will have a larger and less concentrated volume of dye liquor. The difference in 25-gallon dye vats in a long string of jigs may amount to from five to fifteen gallons in the course of several hours' running in cold weather and hence lead to very uneven shades in the various rolls dyed.

Another common cause of trouble comes from leaky steam valves with a resultant uneven increase in the volume of liquor from jig to jig. Each operator should be trained to report at once any defective valve. While the initial cost of equipping jigs with closed steam coils may be high in comparison with the ordinary open jet, the added protection afforded warrants their more general use.

A third factor which aids in preventing uneven shades from roll to roll is a uniform weight of each roll. The usual method of gauging the size of the jig roll when it is being wound up is by measuring the radius by means of a stick. Because the tension of the cloths on the winder may vary, and hence the roll be tightly wound while another is much "softer," this method is somewhat unreliable. It is much better to equip the winder with a good yardage clock or else weight each roll before dyeing.

Moving South

(Charleston, (W. Va.) Gazette)

Reviewing the textile situation recently in his weekly letter, Roger W. Babson, the statistician and economist, had occasion to write:

"Many shareholders in New England mills feel that the entire industry is moving South, and they are naturally discouraged. Hence, most people connected with textiles whether owners or employees, have been quite depressed during the past years."

The above remarks constitute a significant but entirely natural conclusion. The writer is not the first person to note the impression that the textile industry, more particularly the cotton textile industry, shows a decided tendency to move southward. The reason, too, is plain. In practically every way the conditions in the South are more favorable than New England. In the first place the cotton is there on hand. In the second the South has water power and coal. And, finally, living is cheaper and this tends to make labor cheaper and more insuperable barrier for New England to overcome.

President Coolidge hails from New England, which has, up to the last few years, been regarded as the exclusive home of the textile industry. The President, as should be expected, favors a high, protective tariff because he comes from a section that has prospered and been nourished on a tariff. The textile industry is protected by the highest tariff it has ever known and the manufacturers are clamoring for more duties. The tariff has managed to keep out foreign competition but it has been unable to protect New England from the competition of the South. Indeed, the mills in the South are doubly protected. In addition to the advantage of natural conditions they have the added advantage of an exceedingly high tariff. To use a current phrase, the textile industry in the South is "sittin' pretty."

Those who have the best hopes of the country in mind will not take comfort in the misfortunes of others. Unfavorable business conditions in one section of the country are bound to affect the prosperity of the whole nation. Therefore, the South should not gloat over the unfortunate condition of New England. But this does not alter the fact that the South is certain of being the future home of the textile industry in this country. Forward-looking persons foresaw this many years ago. The Southern mills can afford to sit back and await future developments with the utmost confidence. The real question is what is New England going to replace her textile industries with? This is a matter that is going to become more vital to New England with each passing year, and it is one that deserves the closest attention of the nation's economists and business men.

Their Neighbors' Children

If the Child Labor Amendment passes it will be because the majority of people think the neighbor children ought to be under Government control.—Houston Post.

Clark's Cotton Records

Statistics Week Ending Feb. 7, 1925.

	1925.	1924.	1923.
Visible supply American	4,644,000	3,057,000	3,111,000
Into sight during week	203,931	227,880	121,659
Mill takings during week	323,000	324,000	121,659
Mill takings since Aug. 1st	8,388,000	7,204,000	7,880,000
Exports during week	274,390	145,450	175,000
Exports since Aug. 1st	5,129,272	3,899,656	3,160,000

Government Reports.

Acreage this season	40,403,000	38,709,000	34,016,000
Indicated crop July 25	12,144,000	11,412,000	11,065,000
Indicated crop middle of July	11,934,000		
Indicated crop end of July	12,351,000	11,516,000	11,449,000
Indicated crop middle of Aug.	12,956,000		
Indicated crop end of Aug.	12,787,000	10,788,000	10,575,000
Indicated crop middle of Sept.	12,596,000		
Indicated crop end of Sept.	12,499,000	11,015,000	10,135,000
Indicated crop middle of Oct.	12,675,000		
Indicated crop end of Oct.	12,816,000		
Indicated crop middle of Nov.	12,992,000		
Indicated crop end of Nov.	13,153,000		
Ginned to Oct. 1st	4,527,671		
Ginned to Oct. 18th	7,600,826	6,415,145	6,078,321
Ginned to Nov. 14th	11,163,400		
Ginned to Dec. 1st	12,225,000		
Ginned to Jan. 16, 1925	13,308,037		
Carryover beginning of cotton year	2,319,000	2,573,000	4,879,000

Cotton Exports.

Following is a comparison of the exports by months in running bales, including linters:

	1924.	1923.	1922.
August	277,641	244,415	272,808
September	737,010	689,435	378,390
October	947,556	781,722	798,664
November	1,306,000	770,002	858,337
December	1,076,000	845,581	607,853
January		546,253	473,436
February		482,146	359,657
March		332,168	318,210
April		320,774	259,984
May		326,357	160,368
June		230,979	214,851
July		211,633	171,469
		5,772,000	4,864,027

American Consumption of All Kinds of Cotton, Excluding Linters.

(In running bales, 000s omitted.)

	1924-25		1923-24		1922-24	
	Per Month	Per Season	Per Month	Per Season	Per Month	Per Season
August	357	357	492	492	526	526
September	435	793	484	975	494	1,020
October	530	1,322	542	1,517	534	1,554
November	492	1,814	532	2,049	579	2,133
December	533		462	2,510	529	2,663
January			577	3,088	610	3,273
February			508	3,595	567	3,840
March			484	4,079	624	4,464
April			480	4,559	577	5,041
May			414	4,991	621	5,661
June			350	5,341	542	6,203
July			347	5,688	463	6,666

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A Little Trouble Inside

A man came flying out of a window taking sash and all with him, and landed kerflop on the sidewalk. He got up and was brushing himself off. When someone asked him what was the matter, he replied, "I guess there is a little trouble inside." That is just what's the matter when travelers fly off the rings. Use Victors and you'll see how perfect heat treatment eliminates internal stresses. FREE sample assortment mailed on request. Write today.

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Southern Agent
A. B. CARTER 615 Third National Bank Bldg.
Gastonia, N. C.

Cotton Goods

New York.—the cotton goods markets were steady throughout the week. Prices on some lines showed a tendency to go higher. Shipments of Southern colored goods such as denims, tickings, chambray and some other staple lines showed an increase for the week. New prices on percales were paid where new style goods were offered.

A further improvement was noted in gingham. Naped goods for fall have sold well and some mills have orders to run them until July. Fine combed goods were firmer and mills have sold well ahead on broadcloths, sateens and fancies.

Print cloths and sheetings were quiet but steady during the week. There were several reports of premiums paid for wide print cloths for spot delivery. Manufacturers of bag goods continued to stay out of the market and their recent purchases have been much below expectations. Sheetings prices showed:

For 34-inch, 5.0 yard, 8%, net, was quoted; 7%, net, paid for 44x40, 6.15 yard, and one-eighth heard for the lower count; 8, net, paid for some 5.50 yard, with reports of a few coming out of second hands at one-eighth less; 8%, net, paid for 36-inch, 5.00 yard; 9%, net, the market for 4.70 yard; 10%, net, for 56x60, 4.00 yard; 13%, net, for 36-inch, 3.00 yard; 13% to three-quarters for 36-inch, 3.25 yard; 16%, net, paid for 40-inch, 2.50 yard. Some 40-inch, 2.85 yard had sold at 14%, net, and there had been reports of one-eighth less; 11%, net, heard for nearby 40-inch, 3.75 yard, and even money for March; spots of 40-inch, 5.00 yard, reported at 8%, net.

Wholesalers are being asked more frequently for wash fabrics, especially, many of the novelties printed stripes, large figures on voiles and many of the fine crepes and silks and cottons. Production in cotton mill centers is making further small gains.

Many cotton sheetings are decidedly cheap in relation to cost and a sharp rise is certain when demand becomes normal. There are some other unfinished cloths that are priced much too low and they will rebound as soon as the normal spring increase in demand is noted. The activity in many fancy prints continues and several lines of specialty wash fabrics are being bought more liberally. Wrapped cottons are being sold in fair volume by men on the road. Gingham show constant improvement and mills are considering the wisdom of advancing prices at once.

Prices held steady in the Fall River print cloth market, although

inquiry was light, covering mainly reversed stripes, sateens and twills. The list of prices showed practically no change for the week. Total sales were estimated at 70,000 pieces.

Cotton duck sales were fairly large for the week, although prices were somewhat lower than most mills would consider. Tire fabrics were inactive during the week. At present tire mills are reported to have a good business on hand and many of them are expected to need new fabric supplies within a short time. Prices showed little change.

The most interesting feature of the week was the large order placed by Henry Ford. It was generally estimated that this order covered 5,000,000 yards of wide sateens and drills for top purposes. It was the first quantity business that Ford placed for about a year.

John V. Farwell Company, Chicago, says in their weekly review of trade:

"Wholesale dry goods business continues to run federately ahead of last year in both volume and number of road orders. House business was given a big impetus this week by the large attendance of retailers brought in by the Interstate Merchants Council of the Association of Commerce, as many buyers stayed over to complete their spring buying in the house. One of the representative rug manufacturers this past week advanced certain rugs to go into effect February 15, 1925. Demand for gingham, wash fabrics and print cloths is increasing. Merchants are placing orders for blankets in a larger way than a year ago. Collections are fair."

Cotton goods prices in primary markets were quoted as follows:

Print cloths, 20-inch, 64x64s, 7% cents; 64x60s, 7% cents; 38½-inch 64x64s, 9% cents; denims, 2.20s indigo, 19½ cents; brown sheetings, Southern standards, 15½ cents; tickings, 8-ounce staples, 26 cents; prints, 9½ cents; staple gingham, 10½ cents; dress gingham, 17½ to 20 cents.

Czechoslovak Textile Mills Well Occupied.

The situation in the different branches of the Czechoslovak textile industry and trade continues satisfactory, Commercial Attache Groves, Prague, reports. Operations in the cotton spinning mills are close to normal, while the bulk of the weaving mills are reported as operating full time. No change is noted in the wool industry, where prices remain steady and the trade,

Southeastern Selling Agency LESSER-GOLDMAN COTTON COMPANY OF ST. LOUIS, MO.

P. H. PARTRIDGE, Agent, Charlotte, N. C.
Extra staples, and good 1 1-16 and 1½ cotton from Arkansas, Oklahoma, and Texas, and Memphis territory.

The Yarn Market

Philadelphia, Pa.—It was another very slow week in cotton goods. There was practically no demand for yarns in any quantity. Buyers continued to cover only their most urgent needs, paying practically no attention to their future requirements. Spinners' prices were reported as being firm and unchanged, except in isolated instances where concessions of half a cent per pound were noted. Cheaper prices named from dealers' hands at prices 1 to 3 cents below those of a week ago were reported from several quarters of the market. Beyond the bargain hunting, yarn trading has come to a virtual standstill. Buyers are unwilling to pay present prices and spinners are not willing to lower their quotations. Many Southern mills are sold up for several weeks to come, while others will need new business within the next two to three weeks. Production continues large, with most Southern plants running on full time.

Quotations in this market, which are regarded as purely nominal, were published as follows:

Southern Two-Ply Chain Warps.			
2-ply 8s.	40 a.	2-ply 26s.	48 a.
10s.	41 a.	2-ply 30s.	49 1/2 a50
2-ply 16s.	43 a.	2-ply 40s.	58 a60
2-ply 20s.	43 1/2 a44	2-ply 50s.	66 a68
2-ply 24s.	47 a.		

Southern Two-Ply Skeins.			
8s.	38 1/2 a.	40s.	55 a57
10s to 12s.	39 1/2 a40	40s ex.	58 a60
14s.	41 1/2 a.	50s.	65 a67
16s.	42 1/2 a.	60s.	74 a.
20s.	43 a42 1/2	Tinged Carpet—	
24s.	47 a.	3 and 4-ply 36 1/2 a37	
26s.	48 a.	White Carpet—	
30s.	49 a49 1/2	3 and 4-ply 38 a39	
36s.	54 a.		

Part Waste Insulated Yarn.			
8s, 1-ply.	35 a36	12s, 2-ply.	38 a39
8s, 2, 3 and		20s, 2-ply.	43 a.
4-ply.	36 a37	26s, 2-ply.	47 a.
10s, 1-ply and		30s, 2-ply.	49 a.
3-ply.	37 a28		

Duck Yarns.			
3, 4 and 5-ply—		3, 4 and 5-ply—	
8s.	39 a.	16s.	43 a.
10s.	40 a.	20s.	44 a.
12s.	41 a.		

Southern Single Chain Warps.			
10s.	40 a.	24s.	46 1/2 a.
12s.	40 1/2 a.	26s.	47 1/2 a.
14s.	41 1/2 a.	30s.	50 a51
16s.	42 1/2 a.	40s.	57 a58
20s.	43 1/2 a.		

Southern Single Skeins.			
6s to 8s.	38 a.	20s.	43 a.
10s.	39 a.	24s.	46 a.
12s.	40 a.	26s.	47 a.
14s.	41 a.	30s.	49 a.
16s.	42 a.		

Southern Frame Cones.			
8s.	38 a.	22s.	41 1/2 a.
10s.	38 1/2 a.	24s.	43 a.
12s.	39 a.	26s.	43 a44
14s.	39 1/2 a.	28s.	45 a.
16s.	40 a.	30s.	47 a.
18s.	40 1/2 a.	20s tying in	46 a.
20s.	41 a.	40s.	55 a56

Southern Combed Peeler Skeins, Etc.			
2-ply 16s.	56 a60	2-ply 50s.	75 a80
2-ply 20s.	58 a62	2-ply 60s.	85 a87
2-ply 30s.	65 a67	2-ply 70s.	95 a100
2-ply 36s.	67 a70	2-ply 80s.	105 a110
2-ply 40s.	70 a73		

Southern Combed Peeler Cones.			
10s.	50 a.	30s.	60 a.
12s.	51 a.	32s.	62 a.
14s.	52 a.	34s.	64 a.
16s.	53 1/2 a.	36s.	65 a.
18s.	53 a.	38s.	68 a.
20s.	53 1/2 a.	40s.	70 a.
22s.	54 a.	50s.	75 a.
24s.	54 1/2 a.	60s.	85 a.

26s.	55 a.	70s.	95 a.
28s.	57 a.	80s.	105 a.
Eastern Carded Cones.			
10s.	47 a.	22s.	53 a.
12s.	48 a.	26s.	55 a.
14s.	49 a.	28s.	57 a.
20s.	52 a.		

Bulletin of Yarn Spinners' Association.

The bulletin of the Southern Yarn Spinners' Association says:

"Conditions in the yarn market remain unchanged. The advance in cotton served only to stiffen yarn prices which might otherwise have shown a tendency to weaken. Consumers are content to shop the market, their inquiries having failed to materialize into orders. The market is at a deadlock. Consumers are unwilling to purchase at prevailing prices. Spinners show no inclination to grant concessions. The movement of cotton has not been sufficient to influence prices either up or down. Spinners have orders to last them for some weeks, and show no inclination to increase operations beyond the demand for yarns. There has been no accumulation of stocks, and curtailment is likely in the event a buying movement does not materialize shortly."

German Silk Mills Occupied With Domestic Orders.

Silk weaving mills in Germany are well occupied as a result of an increased domestic demand, although substantial foreign orders are still lacking, according to consular advice to the Department of Commerce from Dresden. Crepe-like materials are preferred and together with satins continue most popular as background for the many fantastic, strong-colored motifs made by hand or machine. Besides printing machines, jacquard machines are much used in producing these designs. Many of the silk fabrics are manufactured from a mixture of artificial silk, wool or cotton with the pure silk. Efforts are being made by a number of firms in Crefeld to regain their pre-war prestige in world markets for silk neckties. Care is being given not only to the manufacture of the better qualities of ties, but also to medium and cheap goods. Another important branch of the industry is the umbrella cloth manufacturing, in which an improvement is apparent particularly from an artistic viewpoint. While black materials are used throughout for men's umbrellas, preference is given by women to multi-colored cloth designed in jacquard machines or by chine print.

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"Attention"

Wanted — Position as superintendent. Now employed. On present job five years. Address O. P., care Southern Textile Bulletin.

Master Mechanic

With excellent reputation wants to change positions on account of ill health in family. Best references from well known mill men. Only a place paying good salary considered. Correspondence confidential. Address S. Y. C., care Southern Textile Bulletin.

Wanted

First-class bookkeeper-accountant, capable office management, systematizing, etc., for large cotton mill in Georgia. State fully previous experience, etc. Strictest confidence observed. Address Box No. 177, Johnson City, Tenn.

For Sale

1 Keeler Horizontal Return Tubular Boiler, 90 H. P., 60" diameter, 17 feet long. To carry 100 lbs pressure. The Randolph Mills, Franklinville, N. C.

Wanted

Two 156 spindle, 3½" gauge, 2½" ring dry twistors, band driven. Address all communications to F. L. A., care Southern Textile Bulletin.

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We offer the following for prompt delivery and subject to prior sale:

- 1 38-in. 1919 Saco-Lowell automatic feeder.
- 6 late model Whitin twistors, motor driven, 2½ in. ring, 4½ in. gauge, creels for four ply, tape driven spindles, 208 spindles.
- 2 Lowell twistors, 3½" R., 4½" G., 132 sp. ea.
- 3 Hopedale twistors, 2-in. ring, 3-in. gauge, 200 sp.
- 2 Fales & Jenks twistors, 2½" ring, 180 sp.
- 2 Lowell twistors, 2" ring, 3" gauge, 200 sp.
- 1 Whitin twister, 4" ring, 5" gauge, 144 sp.
- 1 Whitin twister, 4" ring, 5" gauge, 96 sp.
- 8 26x54¼ Draper section beam warpers.
- 10 26x54¼ Entwistle section beam warpers.
- 4 Model I Draper ball warpers.
- 1 single linker Globe denn warper.
- 350 26x54¼ section beams.
- 50 24x54¼ section beams.
- 200 24" cast iron section beam heads.
- 300 12x36 roving cans.
- 5000 4x6 metal bound U. S. spools.
- 5000 8" lift speeder bobbins.
- 10,000 9" lift intermediate bobbins.
- 1 7½ H. P. G. E. motor, 220 V., 3 P., 60 C., complete with pulley and starter.
- 1 40" set Dronsfield travis grinding rolls.
- 1 40" Dronsfield drum grinder.
- 1 40" burnisher.
- 1 40" stripper.
- 1 40" Elliott & Hall cloth folder.
- 1 40" Curtis & Marble cloth folder.

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Fifteen years' experience as general superintendent. Can efficiently operate any mills in the country. Thoroughly experienced in yarns and fabrics, plain, colored and fancies. Address F. N. B., care Southern Textile Bulletin.

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- 3—Butterworth Indigo Dyeing Vats.
- 2—Butterworth Double Boiling-Out and Wash Boxes.

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During the three months' membership we send the applicant notices of all vacancies in the position which he desires and carry small advertisement for one month.

We do not guarantee to place every man who joins our employment bureau, but we do give them the best service of any employment bureau connected with the Southern Textile Industry.

WANT position as overseer small card room or second hand in large mill. Would also consider night overseer's place. References. No. 4374.

WANT position as overseer carding. Would prefer mill that is run down and not getting results where I would have chance to prove my ability. Age 30, married, sober, good references, 18 years' experience. Now employed. No. 4375.

WANT position as superintendent or overseer large card room. Prefer weave mill on plain work. Good references. No. 4376.

OFFICE man of unusual ability wants to correspond with mill needing man of long experience, age 33, married. Thoroughly acquainted with mill cost accounting. Excellent references. No. 4377.

WANT position as superintendent. Have had many years of excellent training and am capable in every respect. Excellent references. No. 4379.

WANT position as overseer spinning or second hand in large mill. Age 25, married, good habits, qualified by experience and training to handle room unusually well. References on request. No. 4380.

OVERSEER spinning with long experience wants position with large mill. Would consider carding and spinning in medium size plant. Prefer personal interview with parties desiring man of character and ability. No. 4381.

EXPERIENCED and capable overseer of weaving wants to make a change. Good reason for leaving present employer. Would appreciate opportunity to present references as to character and ability. No. 4382.

WANT position as overseer spinning and twisting or twisting and winding. Foster machines, hosiery yarns. Age 47, 20 years as overseer, have taken textile course for overseers. No. 4383.

EXPERIENCED superintendent who has successfully run a number of first-class mills desires to change. Excellent references to show past record. No. 4384.

WANT position as overseer weaving. Practical man of long experience who can get quality and quantity production on wide variety of fabrics. No. 4385.

WANT position as overseer carding or assistant superintendent. Long experience in card room and office. A-1 references. No. 4386.

WANT position as overseer cloth room. Long experience on high class plain and fancy goods. Now employed but wish larger place. Can furnish excellent references. No. 4387.

WANT position as carder or spinner or both, or overseer winding. Experienced overhauler and erector, formerly erector for Whitin Machine Works. First-class references. No. 4388.

WEAVE MILL superintendent, with 6 years' experience as such on both plain and fancy goods wishes good mill. College and textile school education. References. No. 4389.

WANT position as superintendent or overseer weaving. Capable man of long experience. Good habits, energetic and always on the job. Best of references. No. 4390.

OVERSEER carding of unusual ability desires position. Have had 12 years as carder, 2 years as erector of carding and spinning for Saco-Lowell. Good habits, steady worker. No. 4394.

WANT position as overseer carding or spinning, day or night. Now employed in good mill. Seven years as overseer. Excellent references. No. 4391.

WANT position as overseer carding. Now employed but have good reason for making a change. References to show ability and character. No. 4393.

SUPERINTENDENT open for position. Prior to being superintendent was in mill office, mill engineering, textile school, work in all departments of mill. Experienced in cotton mill machine shop work, and as overseer carding. Good executive. References. No. 4392.

COTTON CLASSER of 15 years' experience wishes position as classer in large mill or classer and general office man in smaller mill. Best of references as to character and ability. No. 4395.

WANT position as superintendent, or good place as overseer carding and spinning. Excellent record of past service. Good references. No. 4396.

OVERSEER WEAVING would like to correspond with mill needing first-class man for this department. Good references. No. 4397.

WANT position as overseer carding or second hand if there is a chance for promotion. Age 40, married, good manager of help. Can give good references. No. 4398.

WANT position as overseer carding. Good record with first-class mills. Can come on short notice. Excellent references. No. 4399.

WANT position as overseer weaving or second hand in large room. Experienced on wide variety of plain and fancy goods. Good references. No. 4400.

WANT position as overseer weaving. Several years' experience as overseer. Good manager of help. Good references. No. 4401.

WANT position as superintendent. Ten years as superintendent; on present job 6 years. Was carder 12 years with some of the best mills; long experience in both yarn and cloth mills from waste reworking systems to stable cotton and from coarse duck drills and osnaburgs to fine fabrics. Can give best of references. No. 4402.

CHIEF ENGINEER and master mechanic wants position with good mill. Have had 17 years' experience in cotton mill steam and electric power plants, ranging in size from 500 to 1,500 horsepower; 12 years as master mechanic, 4 years as machinist in navy yard at Charleston. No. 4404.

DESIGNER AND WEAVER wants position where he can handle both positions. Experienced in fine weaving and designing, drawing-in and slashing. No. 4405.

WEAVER of unusual ability and excellent record wants position as overseer good weave room. Experienced, capable and reliable. Good references. No. 4409.

WANT position as carder, spinner or master mechanic. Thoroughly trained in each department. Correspondence solicited. No. 4408.

WANT position as carder or spinner, or both. Have had long experience in good mills and can get excellent results. No. 4406.

MAN with 7 years' experience in mill, five years handling mill supplies and five years as bookkeeper in mill office wants position as purchasing agent. Would accept well paying place as supply room man. No. 4407.

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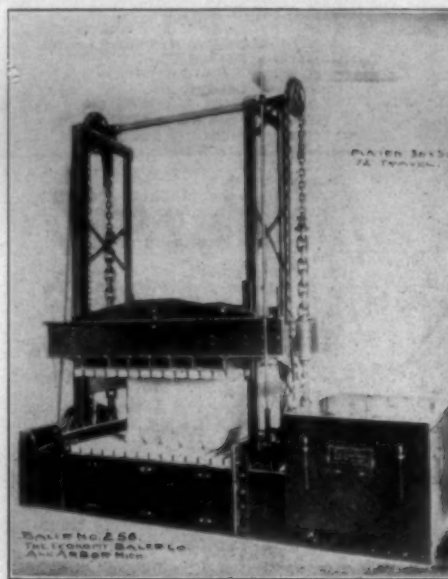
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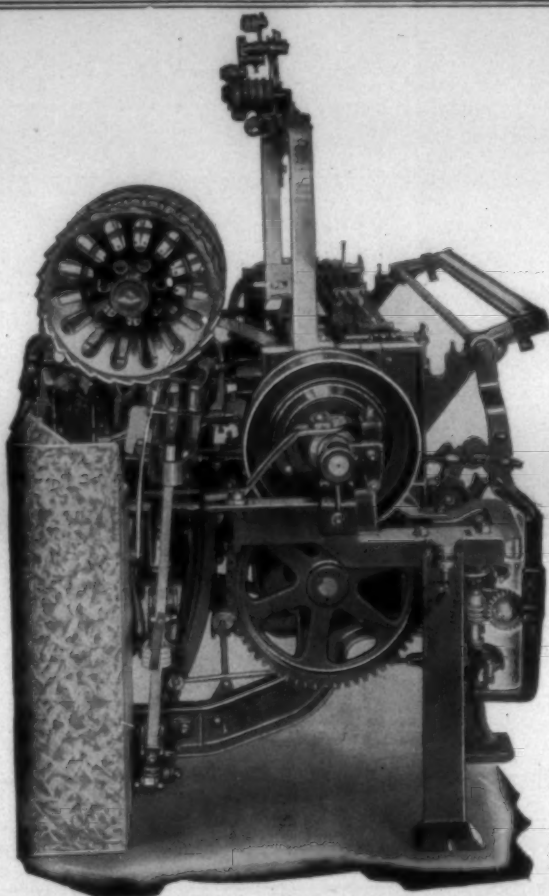
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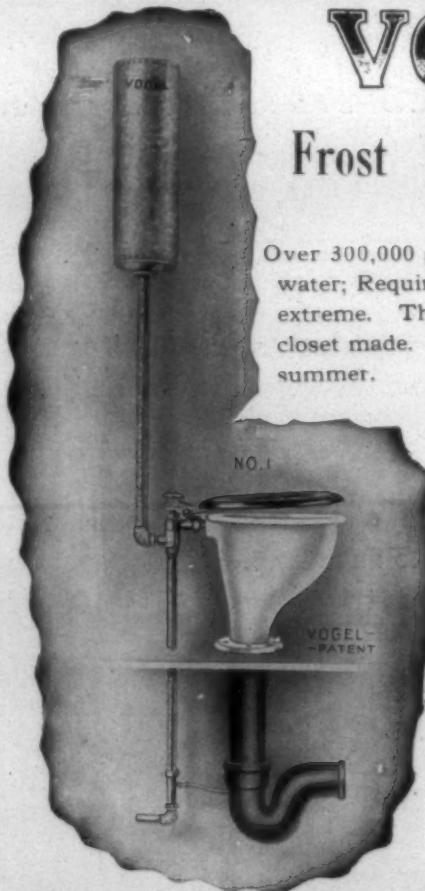
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